

636727

**Report Number: 214-TRC-03-004**

**Safety Compliance Testing For FMVSS 214**

**Side Impact Protection**

**Indicant**

**Mazda Motor Corporation**

**2003 Mazda 6 4-door**

**NHTSA Number: C35403**

**Transportation Research Center Inc.**

**10820 State Route 347**

**P. O. Box B-67**

**East Liberty, OH 43319**



**Test Date: March 17, 2003**

**Final Report: March 28, 2003**

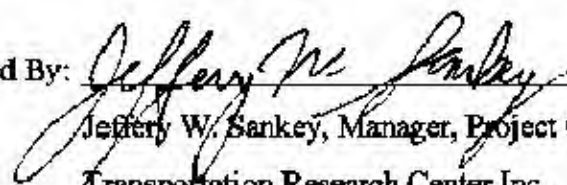
**U. S. Department Of Transportation  
National Highway Traffic Safety Administration  
Enforcement**

**Office of Vehicle Safety Compliance  
400 Seventh Street, S. W.  
Room No. 6111 (NVS-220)  
Washington, DC 20590**

This Final Test Report was prepared for the U.S. Department of Transportation, National Highway Traffic Safety Administration, under Contract No. DTNH22-02-D-11114. This publication is distributed by the U. S. Department of Transportation, National Highway Traffic Safety Administration, in the interest of information exchange. The opinions, findings, and conclusions expressed in this publication are those of the author(s) and not necessarily those of the Department of Transportation or the National Highway Traffic Safety Administration. The United States Government assumes no liability for its contents or use thereof. If trade or manufacturers' names or products are mentioned, it is only because they are considered essential to the object of the publication and should not be construed as an endorsement. The United States Government does not endorse products or manufacturers.

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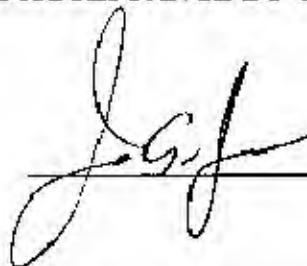
  
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Transportation Research Center Inc.

Approval Date:

3/28/03

FINAL REPORT ACCEPTANCE BY OVSC:

Accepted By:



Acceptance Date:

8/18/03



1. Report No. 214-TRC-03-004	2. Government Accession No.	3. Recipient's Catalog No.																														
4. Title and Subtitle Final Report of FMVSS 214 Indicant Compliance Side Impact Testing of a 2003 Mazda 6 4-door, NHTSA No.: C35403	5. Report Date March 28, 2003	6. Performing Organization Code TRC Inc.																														
7. Author(s) Jeffery W. Sankey, Manager, Project Operations Transportation Research Center Inc.	8. Performing Organization Report No. 030317-2																															
9. Performing Organization Name and Address Transportation Research Center Inc. 10820 State Route 347 East Liberty, OH 43319	10. Work Unit No. (TRAIS)	11. Contract or Grant No. DTNH22-02-D-11114																														
12. Sponsoring Agency Name and Address U.S. Department of Transportation National Highway Traffic Safety Administration Office of Vehicle Safety Compliance (NVS-220) 400 Seventh Street, S.W., Room 6111 Washington, DC 20590	13. Type of Report and Period Covered Final Report March 2003	14. Sponsoring Agency Code NVS-220																														
15. Supplemental Notes																																
16. Abstract <p>This 55/28 km/h 90° Impact (Moving Deformable Barrier) Compliance Test was conducted on the subject vehicle, a 2003 Mazda 6 4-door in accordance with the specifications of the Office of Vehicle Safety Compliance Test Procedure No. TP-214D-06 (except the test was conducted 8 km/h (5 mph) faster than the standard specifies) to determine FMVSS 214 Side Impact Protection compliance. This test was conducted by Transportation Research Center Inc. in East Liberty, Ohio, on March 17, 2003.</p> <p>The impact velocity of the Moving Deformable Barrier (MDB) was 62.1 km/h, and the ambient temperature at the struck (driver's side) side of the target vehicle at the time of impact was 21° C. The target vehicle's post-test maximum crush was 304 mm at Level 2.</p> <p>The test or target vehicle's performance is given below:</p> <table border="1"> <thead> <tr> <th></th> <th>Front SID-H3</th> <th></th> <th>Rear SID-H3</th> <th></th> </tr> </thead> <tbody> <tr> <td>Left Upper Rib Acceleration:</td> <td>62.2</td> <td>g's</td> <td>52.4</td> <td>g's</td> </tr> <tr> <td>Left Lower Rib Acceleration:</td> <td>72.5</td> <td>g's</td> <td>59.1</td> <td>g's</td> </tr> <tr> <td>Lower Spine Acceleration:</td> <td>86.4</td> <td>g's</td> <td>80.2</td> <td>g's</td> </tr> <tr> <td>Thoracic Trauma Index, (TTI):</td> <td>79.5</td> <td>g's</td> <td>69.6</td> <td>g's</td> </tr> <tr> <td>Pelvis Acceleration (PEV):</td> <td>81.5</td> <td>g's</td> <td>91.0</td> <td>g's</td> </tr> </tbody> </table> <p>The two doors on the struck side of the vehicle did not separate from the body at the hinges or latches and the opposite doors did not open during side impact event.</p>				Front SID-H3		Rear SID-H3		Left Upper Rib Acceleration:	62.2	g's	52.4	g's	Left Lower Rib Acceleration:	72.5	g's	59.1	g's	Lower Spine Acceleration:	86.4	g's	80.2	g's	Thoracic Trauma Index, (TTI):	79.5	g's	69.6	g's	Pelvis Acceleration (PEV):	81.5	g's	91.0	g's
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19. Security Classification (of this report) Unclassified	20. Security Classification (of this page) Unclassified	21. Number of Pages 443																														
22. Price																																

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## Section 1

### Purpose and Test Procedure

This side impact test is part of the FMVSS 214 Side Impact Protection Compliance Test Program sponsored by the National Highway Traffic Safety Administration (NHTSA) under Contract No. DTNH22-02-D-11114. The purpose of this test was to evaluate side impact protection in a 2003 Mazda 6 4-door. The test was conducted in accordance with the Office of Vehicle Safety Compliance's Laboratory Test Procedure (TP-214D-06, dated July 2001) (except the test was conducted 8 km/h (5 mph) faster than the standard specifies).

## Section 2

### Summary of Side Impact Test

A 2003 Mazda 6 4-door was impacted on the driver's side by a Moving Deformable Barrier (MDB) which was moving forward in a 27° crabbed position to the monorail at a velocity of 62.1 km/h (38.6 mph). The target vehicle was stationary and was positioned at an angle of 63° to the line of forward motion. The side impact test was conducted by Transportation Research Center Inc. in East Liberty, Ohio on March 17, 2003. Pre-test and post-test photographs of the test vehicle, the moving deformable barrier (MDB), and the side impact Hybrid III dummies (SID-H3s) are included in Appendix A.

Two restrained Side Impact Hybrid III Dummies (SID-H3s) were placed in the driver (Pos. #1) and left rear (Pos. #4) designated seating positions according to the instructions specified in the OVSC Side Impact Laboratory Test Procedure (TP-214D-06, dated July 2001). Both SID-H3s were certified prior to this test. The side impact test was documented by one real-time camera and 9 high-speed cameras. Camera locations and other pertinent camera information are included in this report.

The SID-H3s were instrumented with the following accelerometers:

1. Head (HED) triaxial and redundant accelerometers (X, Y, and Z-directions)
2. Neck (NEK) triaxial force and moment load cells (X, Y, and Z-directions)
3. Left Upper Rib (LUR) uniaxial and redundant accelerometer (Y-direction)
4. Left Lower Rib (LLR) uniaxial and redundant accelerometer (Y-direction)
5. Lower Thoracic Spine (T<sub>12</sub>) uniaxial and redundant accelerometer (Y-direction)
6. Pelvic (PEV) section uniaxial and redundant accelerometer (Y-direction)

A summary of the side impact Hybrid III dummy (SID-H3) configuration and verification test data can be found in Appendix C. A total of 73 channels of data were recorded. Appendix B contains the vehicle, MDB, and dummy response data traces.

The following tables summarize the results of the test:

Injury Criteria	Front SID-H3	Rear SID-H3
TTI (g)	79.5	69.6
PEV (g)	81.5	91.0

#### Head Injury Criteria (HIC)

Injury Criteria	Front SID-H3	Rear SID-H3
HIC	559	555
$t_1$ (ms)	49.5	45.7
$t_2$ (ms)	85.5	62.2
Average Acceleration $t_1 - t_2$ (g)	47.4	64.6

HIC is as defined in FMVSS 208. The maximum time interval  $t_1$  to  $t_2$  is 36 ms.

#### Neck Injury Criteria

Maximum Values	Front SID-H3	Rear SID-H3
Neck X-axis Force (N)	-940.3	533.8
Neck Y-axis Force (N)	1042.1	-1159.2
Neck Z-axis Force (N)	2398.5	-1788.6
Moment About X-axis (Nm) <sup>1</sup>	87.0	-106.2
Moment About Y-axis (Nm)	31.7	-17.1
Moment About Z-axis (Nm)	23.5	-24.3

<sup>1</sup> Calculated about the occipital condyle with the following formula:  $M_{occ} = M_x + 0.01778F_y$ .

### Data Acquisition Explanations

The left rear passenger's head X-axis redundant acceleration data channel, HEDXR4, lost data after 97 milliseconds. This affected the redundant resultant acceleration, velocity and head Injury Criteria (HIC) calculations.

The left mid A-post Y-axis acceleration data channel, LUAYG1, lost data after 19 milliseconds. This affected the velocity calculation.

The left front door on centerline Y-axis acceleration data channel, LFCYG1, lost data after 36 milliseconds. This affected the velocity and displacement calculations.

The left front door mid rear Y-axis acceleration data channel, LFMYG1, recorded questionable data after 3 milliseconds. This affected the velocity and displacement calculations.

Section 3

Summary of Test Results



## Data Sheet 1

### General Test Vehicle Parameter Data

#### Test Vehicle Information:

Vehicle Year/Make/Model: 2003 Mazda 6  
Vehicle Body Style/Color: 4-door/Green VIN: 1YVFP80C835M23683  
Vehicle NHTSA No.: C35403 Build Date: 02/03  
Engine Data: 4 Cylinders;      CID; 2.3 Liters;      cc  
Placement:      Longitudinal; or X Lateral; or      Horizontal  
Transmission: 5 Speed; X Manual;      Automatic;      Overdrive  
Final Drive:      RWD; X FWD;      Four-Wheel Drive  
Odometer Reading: 68 km  
Options: X A/C; X Power steering; X Pwr. brakes; X Power windows

#### Data From Vehicle's Tire Placard:

Tire Pressure (at capacity)\* 220 kPa Front; 220 kPa Rear  
Recommended Tire Size: P205/60R16  
Tires on Test Vehicle: P205/60R16 Manufacturer: Michelin, Energy MXV4 Plus

#### Vehicle Capacity Data:

Number of Occupants: 2 Front; 3 Rear;      3rd seat; 5 Total  
Type of Front Seats: X Bucket;      Bench;      Split bench  
Type of Front Seat Back:      Fixed; X Adjustable with X Lever or      Knob  
Vehicle Max. Capacity Loading = 385 kg (A)  
No. of Occupants x 68.04 kg. = 340 kg (B)  
Vehicle Cargo Capacity (A-B) = 45 kg

#### Test Vehicle Delivered Weight With Maximum Fluids:

Left Front	=	<u>402.0</u> kg	Left Rear	=	<u>295.5</u> kg
Right Front	=	<u>412.0</u> kg	Right Rear	=	<u>274.5</u> kg
Total Front	=	<u>814.0</u> kg	Total Rear	=	<u>570.0</u> kg
Front % of Total Weight	=	<u>58.8</u> %	Rear % of Total Weight	=	<u>41.2</u> %
Total Weight	=	<u>1384.0</u> kg			

\* Tire pressure used in test.



Data Sheet 1 (continued)

General Test Vehicle Parameter Data

Calculation Of Vehicle's Target Test Weight:

Total Test Vehicle Delivered Weight With Max. Fluids = 1384.0 kg (A)  
Maximum Cargo Carrying Capacity of Test Vehicle = 45.0 kg (B)  
Weight of Instrumented Side Impact Dummies (2 X 83.0 kg) = 166 kg (C)  
Test Vehicle Target Weight: = 1595 kg (A+B+C)

Fully Loaded Test Vehicle (UDW + 2 SIDs + Cargo):

Left Front = 450.5 kg      Left Rear = 354.0 kg  
Right Front = 441.5 kg      Right Rear = 349.5 kg  
Total Front = 892.0 kg      Total Rear = 703.5 kg  
Front % of Total Weight = 55.9 %      Rear % of Total Weight = 44.1 %  
Total Weight = 1595.5 kg

As Tested Weight of Test Vehicle (2 SIDs + Cargo + Equipment & Instrumentation):

Left Front = 460.8 kg      Left Rear = 361.8 kg  
Right Front = 420.6 kg      Right Rear = 344.2 kg  
Total Front = 881.4 kg      Total Rear = 706.0 kg  
Front % of Total Weight = 55.5 %      Rear % of Total Weight = 44.5 %  
Total Weight = 1587.4 kg

Test Vehicle Attitude (all dimensions in millimeters):

As Delivered	Fully Loaded	Ready For Test
Right Front <u>715</u>	Right Front <u>703</u>	Right Front <u>694</u>
Left Front <u>716</u>	Left Front <u>697</u>	Left Front <u>700</u>
Right Rear <u>720</u>	Right Rear <u>692</u>	Right Rear <u>693</u>
Left Rear <u>720</u>	Left Rear <u>686</u>	Left Rear <u>697</u>

Test Vehicle Wheelbase: 2670 mm

C.G. = 1187 mm rearward of front wheel centerline

Total Vehicle Length:

Right Side = 4365 mm  
Left Side = 4365 mm  
Centerline = 4768 mm

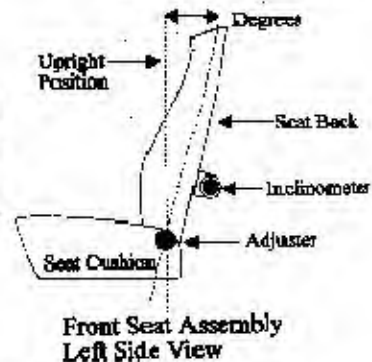
Data Sheet 1 (continued)

General Test Vehicle Parameter Data

Vehicle: 2003 Mazda 6 4-door

NHTSA No.: C35403

Nominal Design Riding Position for adjustable driver and passenger seat backs. Please describe how to position the inclinometer to measure the seat back angle. Include description of the location of the adjustment latch detent, if applicable.



Front Seat Cushion Placement: Mid. 12<sup>th</sup> notch rearward from forwardmost

Total Length of Fore/Aft Adjustment Travel: 240 mm

Total Number of Adjustment Positions or Detents: 25

Front Seat Back Adjustment Position: The back was adjusted to 13.3° at head restraint

Seat Back Torso Angle: 13.3 degrees

Second Position Seat Placement: Fixed

Total Length Of Fore/Aft Adjustment Travel: N/A mm

Seat Back Adjustment Position: Fixed

Adjustable Steering Column Position: 67.3°, mid between highest and lowest angles

Window Positions:

Right Front: Closed

Right Rear: Open

Left Front: Closed

Left Rear: Open

Note: Windows will be in closed position on struck side of test vehicle and in open position on opposite side.

Amount of Stoddard Solvent In Fuel Tank:

68.0 liters (fuel tank usable capacity)

63.2 liters used in test (92% - 94% of fuel tank usable capacity)

Location of Impact Point On Test Vehicle Side To Be Impacted:

Wheelbase = 2670 millimeters

Intended impact point is 395 millimeters rearward of front axle centerline  
(which is 940 millimeters forward of the wheelbase midpoint)

Actual Impact Point is 940 millimeters rearward of front axle centerline

## Data Sheet 2

### Test Vehicle Summary of Results

Vehicle Year/Make/Model: 2003/Mazda/6

Body Style: 4-door

VIN: 1YVFP80C835M23683

NHTSA No.: C35403

Build Date: 02/03

Test Date: 03/17/03

Vehicle Overall Length = 4768 mm

Overall Width = 1780 mm

#### Vehicle Test Weight (Pre-Test):

Left Front = 460.8 kg      Left Rear = 361.8 kg

Right Front = 420.6 kg      Right Rear = 344.2 kg

Total Front = 881.4 kg      Total Rear = 706.0 kg

Total Weight = 1587.4 kg

Wheelbase = 2670 mm

Longitudinal C.G. From Center Of Front Axle = 1187 mm

Impact Angle With Respect To Impactor = 90 degrees

#### Impact Point:

Actual Impact Point is 0 mm from nominal impact ref. line (Lateral)

Actual Impact Point is 8 mm up from nominal impact point (Vertical)

#### Maximum Exterior Static Crush:

1. Level 1 ( 280 mm above ground) = 132 mm

2. Level 2 ( 505 mm above ground) = 304 mm

3. Level 3 ( 635 mm above ground) = 292 mm

4. Level 4 ( 880 mm above ground) = 284 mm

5. Level 5 ( 1360 mm above ground) = 53 mm

Maximum Post-Test Intrusion = 304 mm

#### Occupants:

##### Front Passenger

##### Rear Passenger

Dummy Identification 028

065

Restraints Used Seat belt

Seat belt

#### Instrumentation:

Number of Vehicle Data Channels: = 26

Number of Cameras: Onboard = 3      Offboard = 7      Total = 10

### Data Sheet 3

#### Moving Deformable Barrier(MDB) Summary

##### MDB Face Manufacturer And Serial Number:

Plascore, 050C0602-035A0602

##### Position Of Impactor (MDB) On Monorail:

Crabbed 27°

##### MDB Specifications:

Overall Width of Framework Carriage = 1251 mm  
Overall Length of MDB (incl. honeycomb impact face) = 4014 mm  
Wheelbase of Framework Carriage = 2591 mm  
Track of Framework Carriage (Front & Rear) = 1881 mm  
C.G. Location Rearward of Front Axle = 1113 mm

##### MDB Weight:

Left Front	=	<u>379.6</u>	kg	Left Rear	=	<u>302.0</u>	kg
Right Front	=	<u>397.0</u>	kg	Right Rear	=	<u>283.0</u>	kg
Total Front	=	<u>776.6</u>	kg	Total Rear	=	<u>585.0</u>	kg
Total MDB Weight	=	<u>1361.6</u>	kg				

Impact Angle (MDB C/L to Target Vehicle C/L) = 90 degrees

Impact Speed = 62.1 km/h

##### Maximum Static Crush of Honeycomb Impact Face:

1. Row A at Center of Bumper Level	=	<u>190.1</u>	millimeters
2. Row B at Top of Bumper Level	=	<u>73.0</u>	millimeters
3. Row C at Mid Level	=	<u>91.9</u>	millimeters
4. Row D at Top of Stack Level	=	<u>121.5</u>	millimeters

##### Instrumentation:

Number of MDB Data Channels = 5

Data Sheet 4

Post-Test Observations

Vehicle: 2003 Mazda 6 4-door

NHTSA No.: C35403

Visible Dummy Contact Points:

	<u>Left Front SID-H3</u>	<u>Left Rear SID-H3</u>
Head:	<u>Window, upper door</u>	<u>Header</u>
Upper Torso:	<u>Door panel</u>	<u>Door panel</u>
Lower Torso:	<u>None</u>	<u>None</u>
Left Knee:	<u>Door panel</u>	<u>Door panel</u>
Right Knee:	<u>None</u>	<u>None</u>

Door Opening:

	<u>Left Side</u>	<u>Right Side</u>
Front:	<u>Jammed shut</u>	<u>Remained latched, opened easily</u>
Rear:	<u>Jammed shut</u>	<u>Remained latched, opened easily</u>

MDB Distance From Target Impact Point:

Vertical: 8 mm up from target

Horizontal: 0 mm from target

Arm Rest Locations:

Front: 255 mm below the bottom of the window

Rear: 300 mm below the bottom of the window

Seat Movement:

Front: None

Rear: None

Glazing Damage:

Windshield: Small crack at upper A-pillar.

Window: Driver side, passenger side and rear window broken out.

Pillar Separation: No

Sill Separation: No

Other Notable Impact Effects:

None; vehicle trunk stayed latched during test. The trunk was opened during rollover test preparations and would not re-latch prior to testing (photo A-55, Appendix A).

Section 4

Occupant and Vehicle Information



# Data Sheet 5

## SID-H3 Instrumentation Data

Vehicle: 2003 Mazda 6 4-door

NHTSA No.: C35403

TEST NUMBER: 030317-2

DRIVER DUMMY SERIAL NUMBER: 028

POSITIVE  
DIRECTION

NEGATIVE  
DIRECTION

### HEAD ACCELERATION

LONGITUDINAL	8.2 g	@ 192.3 ms	39.3 g	@ 78.3 ms
LATERAL	66.8 g	@ 78.4 ms	7.8 g	@ 35.8 ms
VERTICAL	56.6 g	@ 53.4 ms	0.3 g	@ 246.2 ms
RESULTANT	77.6 g	@ 78.4 ms		
HIC	559 from 49.5 to 85.5 ms			

### HEAD REDUNDANT ACCELERATION

LONGITUDINAL	8.5 g	@ 193.4 ms	39.2 g	@ 78.3 ms
LATERAL	66.8 g	@ 78.4 ms	7.7 g	@ 35.8 ms
VERTICAL	59.3 g	@ 53.4 ms	0.4 g	@ 246.7 ms
RESULTANT	77.5 g	@ 78.4 ms		
HIC	605 from 49.3 to 85.3 ms			

### NECK FORCE

X-AXIS SHEAR	58.7 N	@ 309.8 ms	940.3 N	@ 80.4 ms
Y-AXIS SHEAR	1042.1 N	@ 80.8 ms	317.1 N	@ 35.8 ms
Z-AXIS AXIAL	2398.5 N	@ 57.6 ms	83.9 N	@ 0.9 ms

### NECK MOMENT

ABOUT X-AXIS	72.4 N-m	@ 76.4 ms	84.7 N-m	@ 46.3 ms
ABOUT Y-AXIS	31.7 N-m	@ 89.0 ms	22.9 N-m	@ 66.4 ms
ABOUT Z-AXIS	23.5 N-m	@ 77.0 ms	20.3 N-m	@ 213.3 ms
OCCIPITAL CONDYLE (X)	87.0 N-m	@ 76.4 ms	77.5 N-m	@ 45.7 ms

### LEFT UPPER RIB ACCELERATION

LATERAL (P)	62.2 g	@ 31.3 ms	26.6 g	@ 70.6 ms
LATERAL (R)	63.5 g	@ 31.3 ms	29.2 g	@ 70.6 ms

### LEFT LOWER RIB ACCELERATION

LATERAL (P)	72.5 g	@ 31.3 ms	18.6 g	@ 70.0 ms
LATERAL (R)	73.7 g	@ 31.3 ms	20.1 g	@ 70.0 ms
TTI d (P)	79.5			
TTI d (R)	80.5			

### LOWER SPINE ACCELERATION

LATERAL (P)	86.4 g	@ 35.0 ms	15.4 g	@ 88.8 ms
LATERAL (R)	87.3 g	@ 35.0 ms	16.2 g	@ 65.6 ms

### PELVIS ACCELERATION

LATERAL (P)	81.5 g	@ 30.6 ms	14.2 g	@ 55.6 ms
LATERAL (R)	81.8 g	@ 30.6 ms	14.3 g	@ 55.6 ms

### POSITIVE DIRECTION

LONGITUDINAL: FORWARD  
LATERAL: RIGHTWARD  
VERTICAL: DOWNWARD

### NEGATIVE DIRECTION

LONGITUDINAL: REARWARD  
LATERAL: LEFTWARD  
VERTICAL: UPWARD

# Data Sheet 5 (Continued)

## SID-H3 Instrumentation Data

Vehicle: 2003 Mazda 6 4-door

NHTSA No.: C35403

TEST NUMBER: 030317-2

PASSENGER DUMMY SERIAL NUMBER: 065

POSITIVE  
DIRECTION

NEGATIVE  
DIRECTION

### HEAD ACCELERATION

LONGITUDINAL	7.7 g	@ 66.1 ms	25.2 g	@ 51.1 ms
LATERAL	94.7 g	@ 50.2 ms	15.3 g	@ 66.1 ms
VERTICAL	32.5 g	@ 50.4 ms	44.0 g	@ 59.1 ms
RESULTANT	102.2 g	@ 50.2 ms		
HIC	555 from 45.7 to 62.2 ms			

### HEAD REDUNDANT ACCELERATION

LONGITUDINAL <sup>1</sup>	---	---	---	---
LATERAL	96.3 g	@ 50.2 ms	15.4 g	@ 66.6 ms
VERTICAL	33.2 g	@ 50.4 ms	43.5 g	@ 59.4 ms
RESULTANT <sup>1</sup>	---	---		
HIC <sup>1</sup>	--- from --- to --- ms			

### NECK FORCE

X-AXIS SHEAR	533.8 N	@ 61.1 ms	119.7 N	@ 78.1 ms
Y-AXIS SHEAR	134.9 N	@ 92.2 ms	1159.2 N	@ 60.5 ms
Z-AXIS AXIAL	653.3 N	@ 50.2 ms	1788.6 N	@ 61.0 ms

### NECK MOMENT

ABOUT X-AXIS	12.8 N-m	@ 133.0 ms	100.8 N-m	@ 52.2 ms
ABOUT Y-AXIS	9.5 N-m	@ 96.4 ms	17.1 N-m	@ 64.4 ms
ABOUT Z-AXIS	7.2 N-m	@ 102.7 ms	24.3 N-m	@ 65.0 ms
OCCIPITAL CONDYLE (X)	14.5 N-m	@ 127.1 ms	106.2 N-m	@ 53.1 ms

### LEFT UPPER RIB ACCELERATION

LATERAL (P)	52.4 g	@ 43.8 ms	7.2 g	@ 152.5 ms
LATERAL (R)	51.3 g	@ 43.8 ms	7.0 g	@ 152.5 ms

### LEFT LOWER RIB ACCELERATION

LATERAL (P)	59.1 g	@ 48.8 ms	6.3 g	@ 150.0 ms
LATERAL (R)	60.0 g	@ 48.8 ms	6.2 g	@ 150.0 ms
TTI d (P)	69.6			
TTI d (R)	69.2			

### LOWER SPINE ACCELERATION

LATERAL (P)	80.2 g	@ 48.8 ms	24.0 g	@ 70.6 ms
LATERAL (R)	78.4 g	@ 48.1 ms	23.8 g	@ 70.6 ms

### PELVIS ACCELERATION

LATERAL (P)	91.0 g	@ 41.9 ms	8.0 g	@ 79.4 ms
LATERAL (R)	91.0 g	@ 41.9 ms	7.9 g	@ 79.4 ms

### POSITIVE DIRECTION

LONGITUDINAL: FORWARD  
LATERAL: RIGHTWARD  
VERTICAL: DOWNWARD

### NEGATIVE DIRECTION

LONGITUDINAL: REARWARD  
LATERAL: LEFTWARD  
VERTICAL: UPWARD

<sup>1</sup> See DATA ACQUISITION EXPLANATION

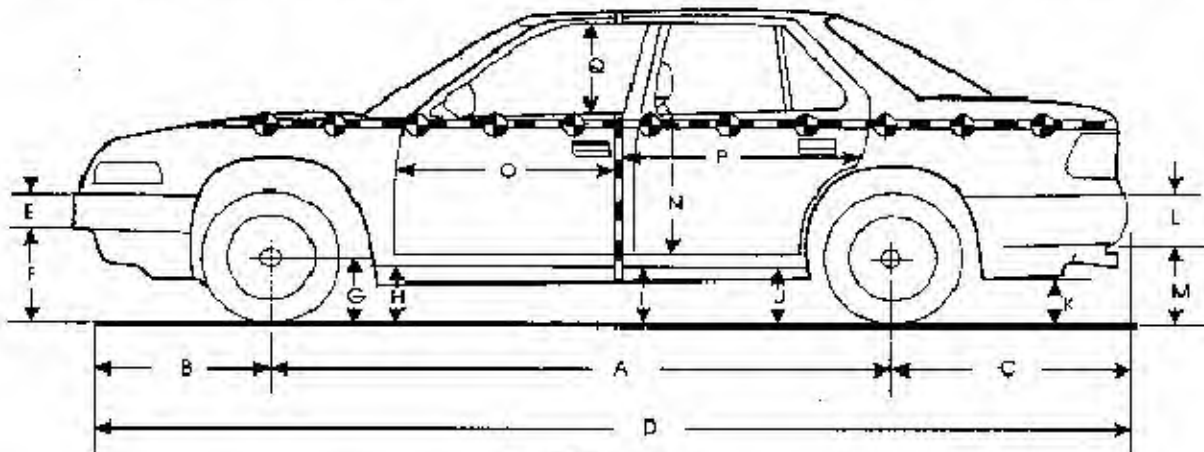


## Data Sheet 6

### Vehicle Pre-Test And Post-Test Measurements

Vehicle: 2003 Mazda 6 4-door

NHTSA No.: C35403



Left Side View

Note: All dimensions are in millimeters with tolerance of  $\pm 3$  mm

	Pre-Test (as delivered)	Pre-Test (as tested)	Post-Test (as tested)	Change
A	2670	2670	2650	20
B	990	990	990	0
C	1050	1050	1050	0
D	4768	4768	4749	19
E	150	150	150	0
F	425	---	---	---
G	310	308	310	-2
H	240	220	250	-30
I	240	205	293	-88
J1	200	160	202	-42
J2	240	203	260	-57
K	270	---	---	---
L	190	190	190	0
M	443	---	---	---
N	708	708	622	86
O	1124	1124	1070	54
P	1025	1025	939	86
Q	400	400	370	30
R	4365	4365	4365	0
S	4365	4365	4295	70
T	1782	1782	1491	291

D = Length at centerline  
T = Width at B-pillar

E&L = Bumper Thickness  
J1 = To Pinch Weld

R = Right Side Length  
J2 = To Sill

S = Left Side Length

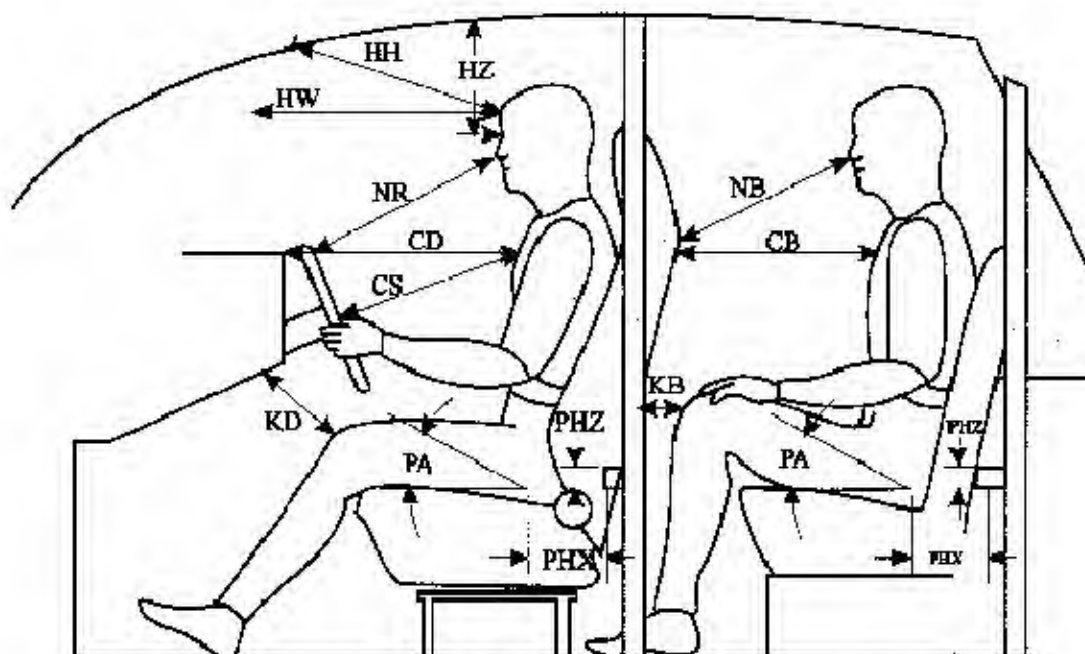
<sup>1</sup> Fascoia removed to meet test weight.

## Data Sheet 7

### SID-H3 Longitudinal Clearance Dimensions

Vehicle: 2003 Mazda 6 4-door

NHTSA No.: C35403



Left Side View

Note: All measurements are in millimeters with tolerance of  $\pm 3$  mm

Measurement	Driver SID-H3 # 28	Left Rear Pass. SID-113 # 65
HH	401	N/A
HW	680	N/A
HZ	186	149
NR/NB	450	646
CD/CB	522	542
CS	342	N/A
KDL(KDA°)/KBL(KBA°)	123/(24.9°)	124/(23°)
KDR(KDA°)/KBR(KBA°)	104/(31.9°)	126/(27°)
PA°	23.4°	23.6°
PHX	162	309
PHZ	112	85

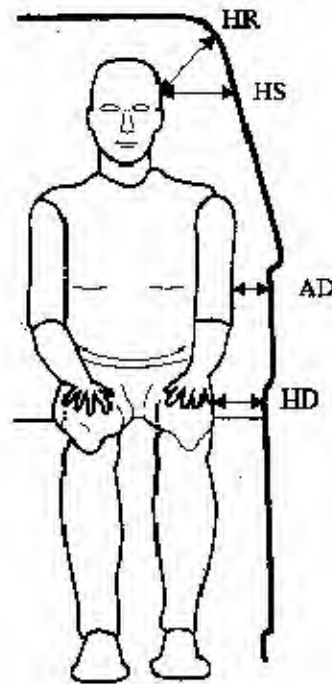
Note: 2-door vehicle shown. Rear dummy PHX and PHZ measurements for 4-door vehicle would use the C-post striker as a reference point.

## Data Sheet 8

### SID-H3 Lateral Clearance Dimensions

Vehicle: 2003 Mazda 6 4-door

NHTSA No.: C35403



Note: All measurements are in millimeters with tolerance of  $\pm 3$  mm.

Measurement	Driver SID-H3 # 28	Left Rear Pass. SID-H3 # 65
HR	233	196
HS	322	215
AD*	Lower: 73      Upper: 98	Lower: 138      Upper: 123
HD	144	189

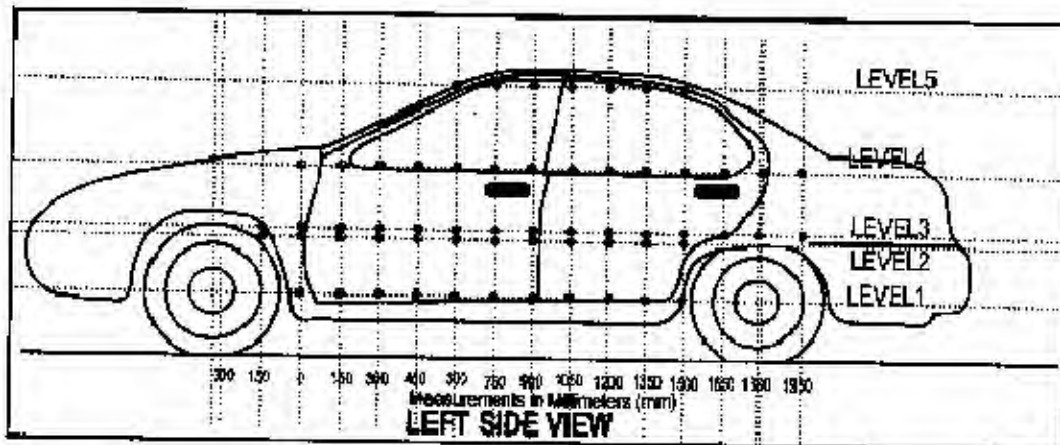
- \* Lower measurement is taken laterally at center of the lower rib accelerometer height from the SID arm segment to the closest part of the vehicle side.  
Upper measurement is taken laterally at center of the upper rib accelerometer height from the SID arm segment to the closest part of the vehicle side.

Data Sheet 9

Vehicle Side Measurements

Vehicle: 2003 Mazda 6 4-door

NHTSA No.: C35403



Level 5 - Window Top

Level 4 - Window Sill

Level 3 - Mid-Door

Level 2 - Occupant H-Point

Level 1 - Axle Centerline Height or Sill Top Height

Measurements Are Taken When The Vehicle Is In The "As Tested" Configuration.

Measurements along the vertical 750 mm line shown above:

Level 5 @ Window Top	=	<u>1360</u>	mm
Level 4 @ Window Sill	=	<u>880</u>	mm
Level 3 @ Mid Door	=	<u>635</u>	mm
Level 2 @ Occupant H-Point	=	<u>505</u>	mm
Level 1 @ Axle Centerline Height (or Sill Top Height)	=	<u>280</u>	mm

Data Sheet 10

Vehicle Exterior Crush Profiles - All Levels

NHTSA No.: C35403

Vehicle: 2003 Mazda 6 4-door

Location	Height	(mm) From Impact Point														
		-1200	-1050	-900	-750	-600	-450	-300	-150	0	150	300	450	600	750	
Level 1 Side Sill	Pre	690	---	---	---	---	---	---	---	643	669	665	661	660	657	
	Post	685	---	---	---	---	---	---	---	655	714	726	740	764	785	
	Crush	-5	---	---	---	---	---	---	---	12	45	61	79	104	128	
Level 2 H-Point	Pre	---	---	680	639	---	---	---	---	633	640	639	639	639	638	
	Post	---	---	675	625	---	---	---	---	665	804	851	875	892	910	
	Crush	---	---	-5	-14	---	---	---	---	32	164	212	236	253	272	
Level 3 Mid-Door	Pre	---	---	690	657	---	---	---	---	625	639	637	635	635	634	
	Post	---	---	685	642	---	---	---	---	640	665	800	888	891	881	
	Crush	---	---	-5	-15	---	---	---	---	15	26	162	219	253	247	
Level 4 Window Sill	Pre	---	---	---	---	---	743	730	722	710	698	690	685	680	675	
	Post	---	---	---	---	---	752	743	736	735	765	814	852	878	881	
	Crush	---	---	---	---	---	9	13	14	25	67	124	167	198	206	
Level 5 Window Top	Pre	---	---	---	---	---	---	---	---	---	---	---	---	---	963	
	Post	---	---	---	---	---	---	---	---	---	---	---	---	---	975	
	Crush	---	---	---	---	---	---	---	---	---	---	---	---	---	12	

Data Sheet 10 (Continued)

Vehicle Exterior Crush Profiles - All Levels

Vehicle: 2003 Mazda 6 4-door

NHTSA No.: C35403

Location	Height	(mm) From Impact Point														
		900	1050	1200	1350	1500	1650	1800	1950	2100	2250	2400	2550	2700		
Level 1 Side Sill	Pre	656	655	653	651	651	652	655	---	---	---	---	---	672		
	Post	784	785	785	777	750	725	700	---	---	---	---	---	656		
	Crush	128	130	132	126	99	73	45	---	---	---	---	---	-16		
Level 2 H-Point	Pre	637	637	630	631	632	633	635	628	---	---	---	---	660		
	Post	921	931	934	924	910	890	845	709	---	---	---	---	646		
	Crush	284	294	304	293	278	257	210	81	---	---	---	---	-14		
Level 3 Mid-Door	Pre	634	633	625	624	625	627	630	625	---	---	---	626	675		
	Post	881	886	917	895	900	915	909	772	---	---	---	620	667		
	Crush	247	253	292	271	275	288	279	147	---	---	---	-6	-8		
Level 4 Window Sill	Pre	670	665	650	649	647	646	647	640	642	657	664	674	690		
	Post	886	876	861	895	914	930	864	761	684	682	679	679	690		
	Crush	216	211	211	246	267	284	217	121	42	25	15	5	0		
Level 5 Window Top	Pre	947	942	923	924	920	918	918	930	---	---	---	---	---		
	Post	966	970	975	971	973	970	951	969	---	---	---	---	---		
	Crush	19	28	52	47	53	52	33	39	---	---	---	---	---		



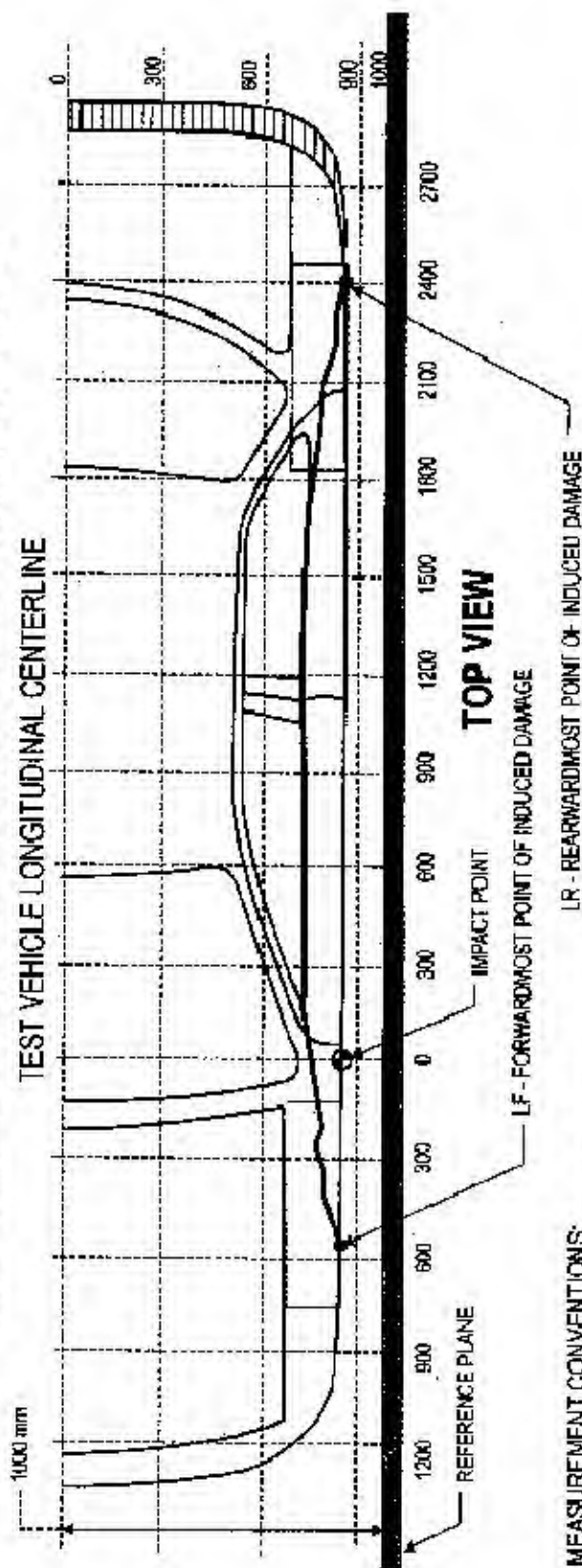
# Data Sheet 11

## Vehicle Damage Profile Distances

Vehicle: 2003 Mazda 6 4-door

NHTSA No.: C35403

NOTE: All measurements are in millimeters (mm) and should be accurate to plus or minus 3mm.



### MEASUREMENT CONVENTIONS:

Forward of the impact point (towards front of vehicle) is considered negative (-)

Rearward of the impact point (towards rear end of vehicle) is considered positive (+)

DPD Measurements	Post-Test (mm)	Pre-Test (mm)	Static Crush (mm)
6: LF = 0 mm (Level 4)	735	710	25
5: 450 mm (Level 4)	852	685	167
4: 900 mm (Level 4)	886	670	216
3: 1350 mm (Level 4)	895	649	246
2: 1800 mm (Level 4)	864	647	217
1: LR = 2250 mm (Level 4)	684	642	42

Full length of induced damage was 0 to 2250 mm.

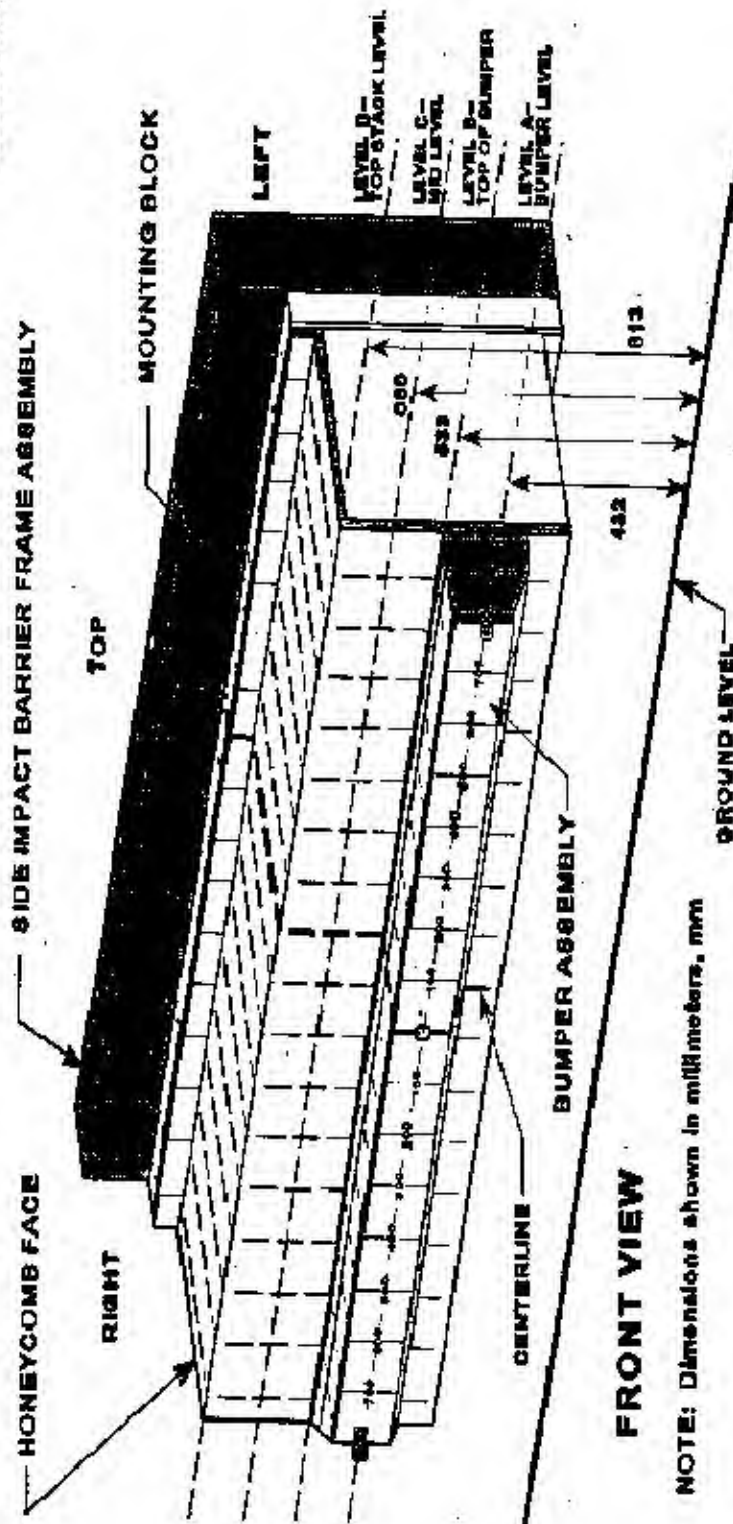
# Data Sheet 12

## Exterior Static Crush For Impactor Face

(Grid as looking at MDB from front)

Vehicle: 2003 Mazda 6 4-door

NHTSA No.: C35403





Data Sheet I2 (Continued)

Exterior Static Crush For Impactor Face

Vehicle: 2003 Mazda 6 4-door

NHTSA No.: C35403

Location	Height At CL	Distance Right of Center (mm)								Distance Left of Center (mm)								
		800	700	600	500	400	300	200	100	0	100	200	300	400	500	600	700	800
Top Stack Level - Level D	813	-58.0	4.8	2.0	-5.1	-15.9	-40.2	-75.2	-64.5	-44.2	-28.0	-16.7	-15.9	-15.6	-19.2	-45.2	-79.3	-121.5
Mid Level Level C	686	-23.5	-11.2	-4.7	-8.2	-10.4	-20.8	-51.9	-33.5	-18.8	-12.2	-9.9	-8.2	-11.3	-15.1	-20.6	-41.1	-91.9
Top Bumper Level - Level B	533	-60.1	-52.5	-47.8	-39.4	-38.7	-33.6	-38.5	-40.7	-41.5	-37.5	-34.7	-34.3	-35.6	-37.9	-44.2	-55.4	-73.0
Mid Bumper Level - Level A	432	-190.1	-170.1	-152.5	-141.1	-133.0	-131.9	-128.3	-126.6	-125.3	-122.8	-122.1	-121.8	-121.8	-123.8	-131.8	-145.3	-162.9

All measurements are in millimeters and have a tolerance of  $\pm 3$ mm.

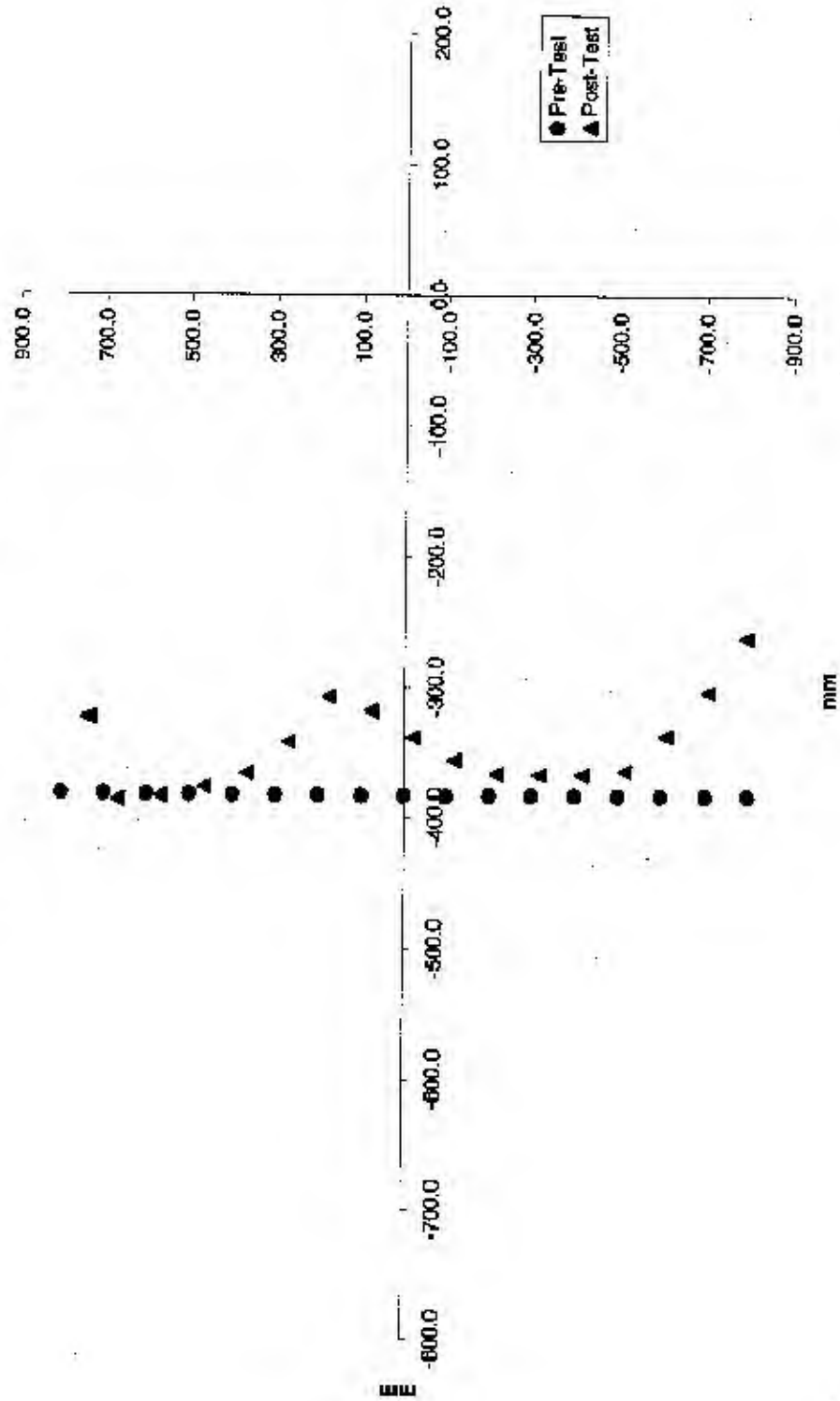
# Data Sheet 12 (Continued)

## Exterior Static Crush For Impactor Face

Vehicle: 2003 Mazda 6 4-door

NHTSA No.: C35403

### Level D - Deformable Barrier Face Profile 1-17



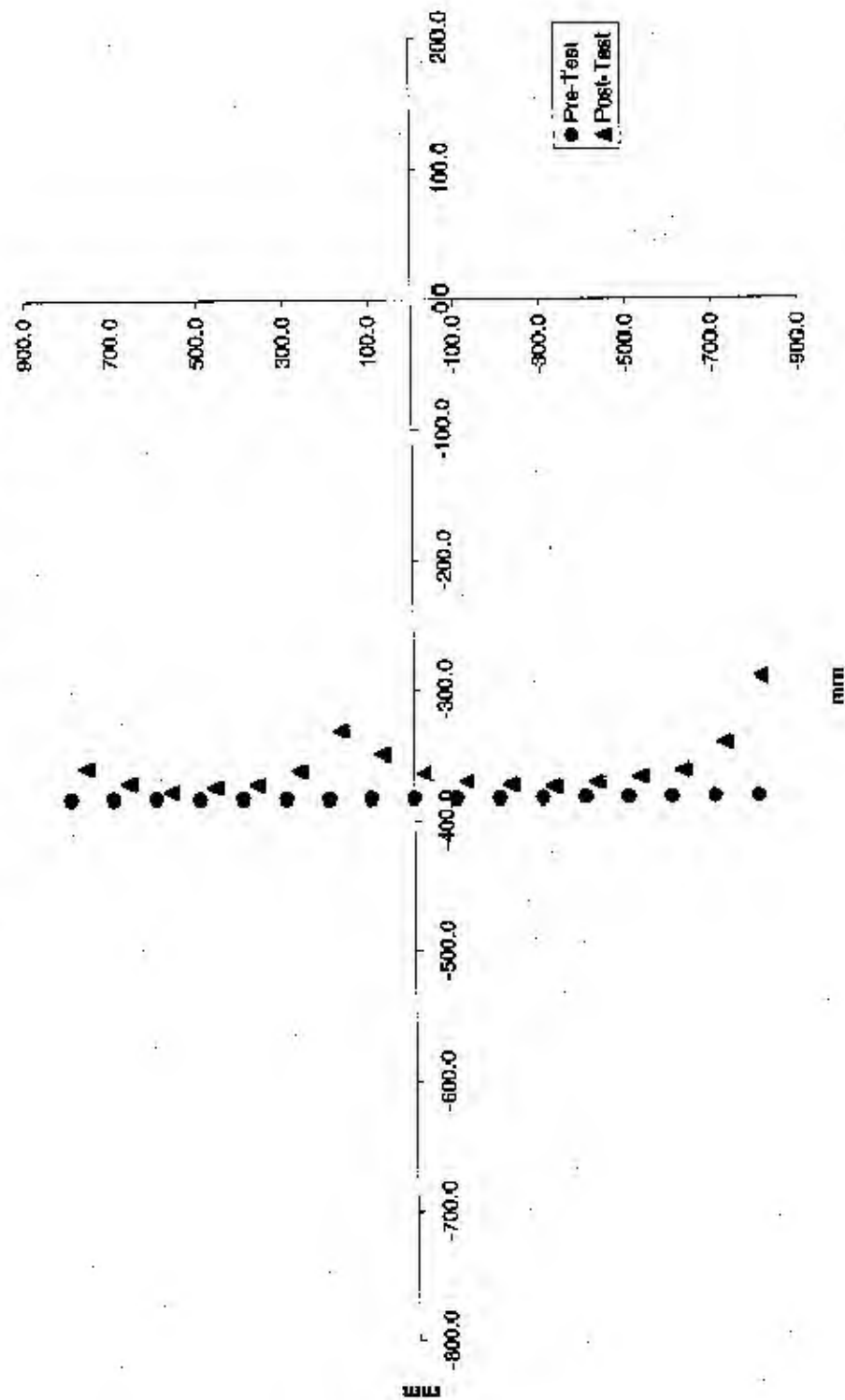
# Data Sheet 12 (Continued)

## Exterior Static Crush For Impactor Face

NHTSA No.: C35403

Vehicle: 2003 Mazda 6 4-door

### Level C - Deformable Barrier Face Profile 18-34



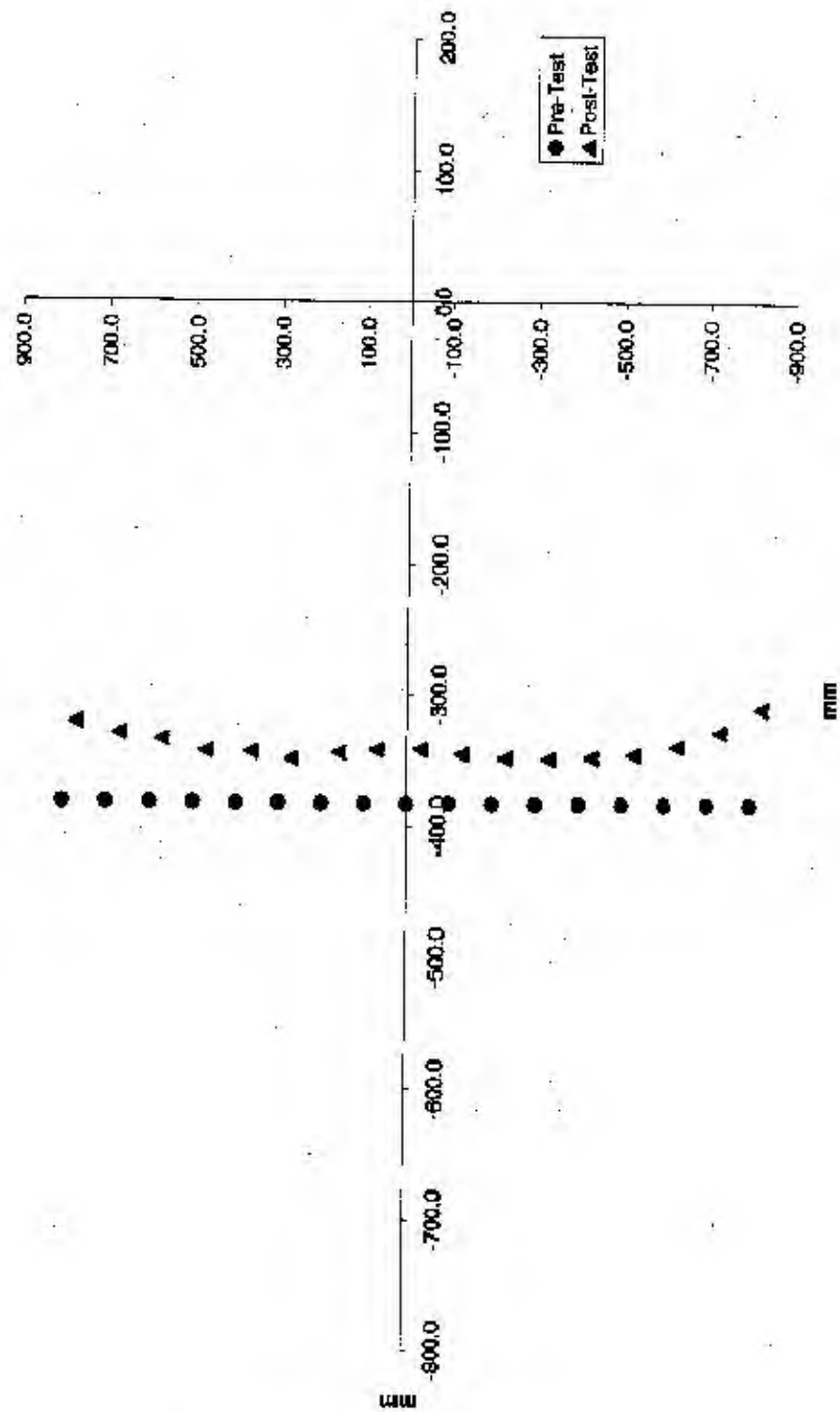
Data Sheet 12 (Continued)

Exterior Static Crush For Impactor Face

Vehicle: 2003 Mazda 6 4-door

NHTSA No.: C35403

**Level B - Deformable Barrier Face Profile 35-51**



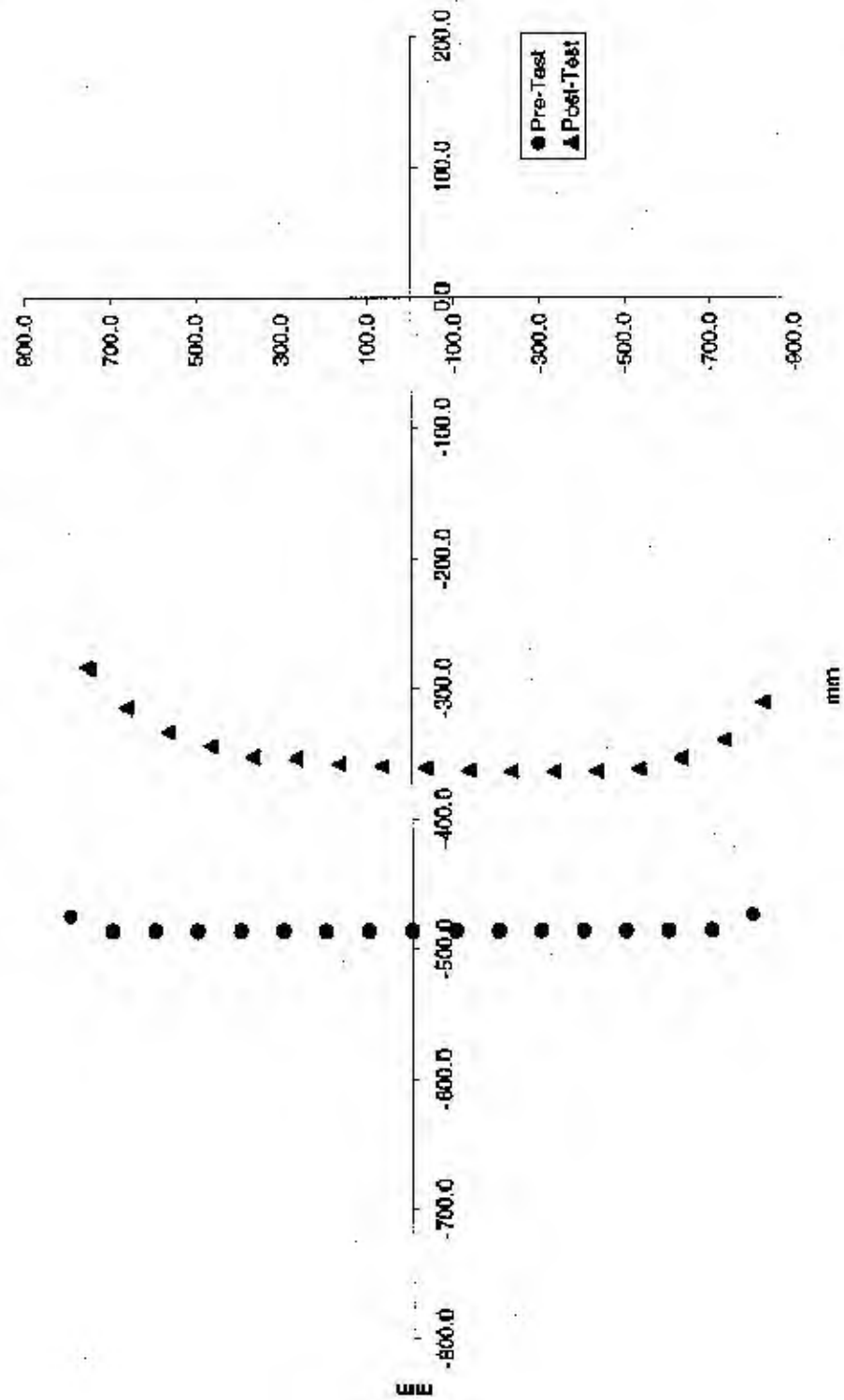
Data Sheet 12 (Continued)

Exterior Static Crush For Impactor Face

Vehicle: 2003 Mazda 6 4-door

NHTSA No.: C35403

Level A - Deformable Barrier Face Profile 52-68



# Data Sheet 12 (Continued)

## Exterior Static Crush For Impactor Face

Vehicle: 2003 Mazda 6 4-door

NHTSA No.: C35403

## Deformable Barrier Face Profile

### Level D - Top Stack

Index	Pre-Test			Post-Test		
	Xmm	Ymm	Zmm	Xmm	Ymm	Zmm
1	-382	800	-43	-324	735	-94
2	-382	700	-43	-387	663	-90
3	-382	600	-43	-384	564	-93
4	-382	499	-44	-377	464	-95
5	-382	399	-44	-366	364	-99
6	-382	299	-44	-342	267	-103
7	-382	199	-44	-307	175	-108
8	-383	99	-45	-318	75	-108
9	-383	-1	-45	-338	-22	-102
10	-383	-101	-45	-355	-120	-94
11	-383	-201	-46	-366	-219	-87
12	-383	-300	-46	-367	-319	-82
13	-383	-401	-47	-367	-419	-78
14	-383	-501	-47	-364	-517	-71
15	-383	-601	-48	-337	-613	-69
16	-383	-701	-48	-303	-708	-67
17	-383	-801	-48	-261	-797	-69

Index	Difference		
	Xmm	Ymm	Zmm
1	-58	64	51
2	5	36	47
3	2	36	49
4	-5	36	52
5	-16	35	55
6	-40	32	59
7	-75	25	64
8	-65	24	63
9	-44	21	57
10	-28	19	49
11	-17	18	41
12	-16	18	36
13	-16	18	31
14	-19	16	24
15	-45	12	21
16	-79	6	19
17	-122	-4	21

Data Sheet 12 (Continued)

Exterior Static Crush For Impactor Face

Vehicle: 2003 Mazda 6 4-door

NHTSA No.: C35403

Deformable Barrier Face Profile Cont'd.

Level C - Mid Level

Pre-Test

Index	Xmm	Ymm	Zmm
18	-382	799	-171
19	-382	700	-172
20	-382	600	-171
21	-382	499	-172
22	-382	400	-173
23	-382	300	-173
24	-382	200	-173
25	-382	100	-174
26	-383	-1	-174
27	-383	-100	-173
28	-383	-201	-174
29	-383	-301	-174
30	-383	-401	-175
31	-383	-501	-175
32	-383	-601	-175
33	-383	-700	-176
34	-383	-801	-176

Post-Test

Index	Xmm	Ymm	Zmm
18	-358	763	-214
19	-370	666	-217
20	-377	567	-221
21	-374	466	-223
22	-372	367	-226
23	-361	268	-228
24	-330	173	-233
25	-349	74	-228
26	-364	-25	-223
27	-370	-125	-218
28	-373	-225	-214
29	-374	-326	-208
30	-371	-426	-203
31	-368	-526	-198
32	-362	-625	-192
33	-342	-723	-188
34	-291	-807	-192

Difference

Index	Xmm	Ymm	Zmm
18	-23	36	43
19	-11	34	46
20	-5	33	49
21	-8	33	51
22	-10	33	53
23	-21	32	55
24	-52	27	60
25	-34	26	54
26	-19	25	49
27	-12	25	44
28	-10	25	39
29	-8	25	34
30	-11	25	29
31	-15	25	23
32	-21	25	17
33	-41	22	12
34	-92	6	15

Data Sheet 12 (Continued)

Exterior Static Crush For Impactor Face

Vehicle: 2003 Mazda 6 4-door

NHTSA No.: C35403

Level B - Top of Bumper

Pre-Test

Index	Xmm	Ymm	Zmm
35	-382	801	-296
36	-382	702	-297
37	-382	601	-297
38	-382	500	-297
39	-382	400	-297
40	-382	301	-298
41	-382	201	-298
42	-382	100	-299
43	-383	0	-299
44	-383	-100	-300
45	-382	-200	-300
46	-382	-300	-300
47	-382	-400	-301
48	-383	-500	-301
49	-383	-600	-301
50	-382	-700	-301
51	-383	-800	-302

Post-Test

Index	Xmm	Ymm	Zmm
35	-322	768	-309
36	-329	670	-322
37	-334	571	-328
38	-343	470	-334
39	-344	366	-338
40	-349	269	-342
41	-344	158	-346
42	-342	70	-346
43	-341	-32	-342
44	-345	-132	-338
45	-348	-232	-332
46	-348	-331	-327
47	-347	-431	-322
48	-345	-531	-318
49	-338	-632	-313
50	-327	-731	-305
51	-310	-828	-299

Difference

Index	Xmm	Ymm	Zmm
35	-60	33	13
36	-52	31	25
37	-48	30	31
38	-39	30	37
39	-39	34	41
40	-34	32	44
41	-38	43	48
42	-41	30	46
43	-41	32	43
44	-37	32	38
45	-35	31	32
46	-34	31	26
47	-36	31	21
48	-38	31	17
49	-44	31	11
50	-55	31	4
51	-73	28	-3



Data Sheet 12 (Continued)

Exterior Static Crush For Impactor Face

Vehicle: 2003 Mazda 6 4-door

NHTSA No.: C35403

Deformable Barrier Face Profile Cont'd.

Level A - Mid Bumper

Pre-Test

Index	Xmm	Ymm	Zmm
52	-474	797	-423
53	-485	699	-424
54	-485	599	-425
55	-485	499	-426
56	-485	398	-427
57	-485	298	-427
58	-485	198	-428
59	-486	98	-429
60	-486	-2	-430
61	-486	-101	-430
62	-486	-201	-431
63	-486	-301	-431
64	-486	-402	-432
65	-486	-501	-433
66	-486	-601	-433
67	-486	-701	-434
68	-474	-799	-434

Post-Test

Index	Xmm	Ymm	Zmm
52	-284	756	-429
53	-315	664	-451
54	-332	566	-461
55	-344	467	-467
56	-352	367	-471
57	-353	266	-470
58	-357	167	-471
59	-359	67	-472
60	-361	-33	-472
61	-363	-133	-472
62	-364	-233	-472
63	-364	-333	-471
64	-364	-433	-471
65	-362	-533	-469
66	-354	-633	-465
67	-340	-731	-457
68	-312	-826	-444

Difference

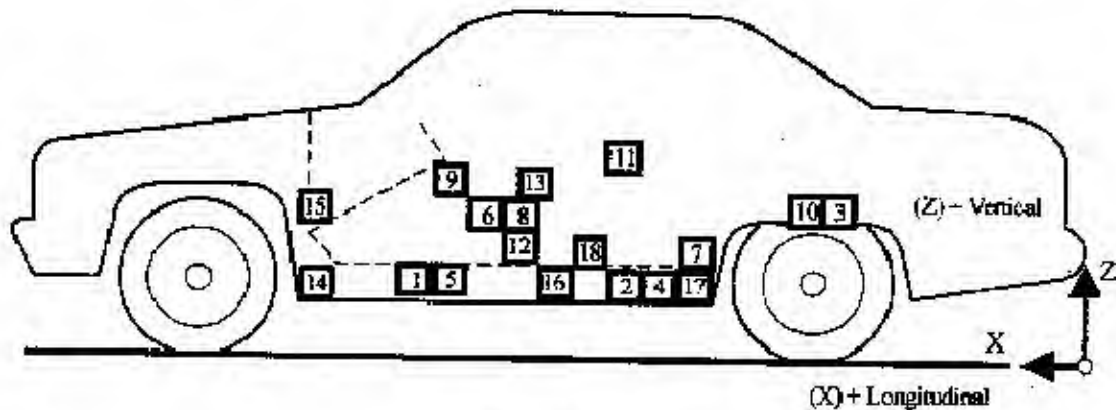
Index	Xmm	Ymm	Zmm
52	-190	41	6
53	-170	35	26
54	-153	33	36
55	-141	32	41
56	-133	32	44
57	-132	32	43
58	-128	32	43
59	-127	31	43
60	-125	31	42
61	-123	32	42
62	-122	32	41
63	-122	32	40
64	-122	31	39
65	-124	32	37
66	-132	31	32
67	-145	30	23
68	-163	27	9

# Data Sheet 13

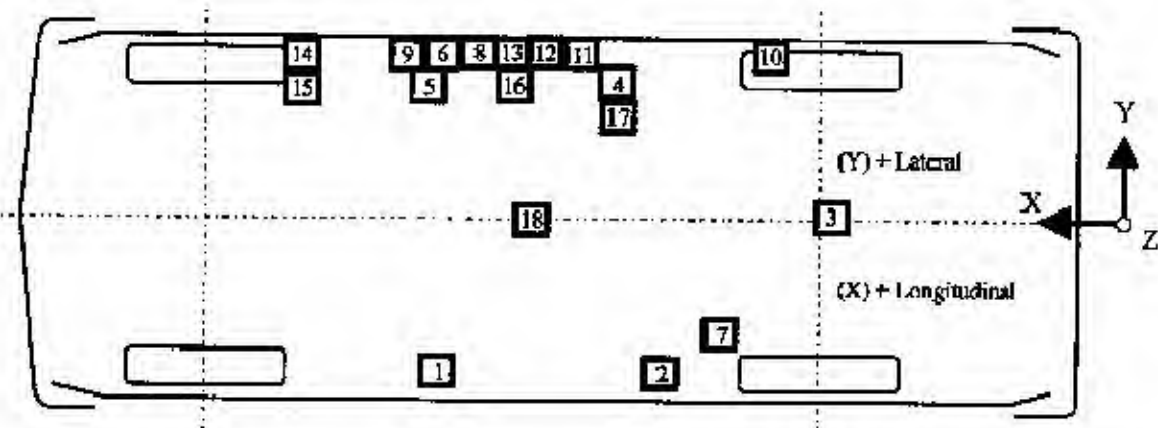
## Test Vehicle Accelerometer Locations and Data Summary

Vehicle: 2003 Mazda 6 4-door

NHTSA No.: C35403



Side View



Bottom View

- |                                    |  |
|------------------------------------|--|
| 1-Right Front Side Sill            | 10-Left Rear Door Mid Rear               |
| 2-Right Side Sill at Rear Seat     | 11-Left Rear Door Upper Centerline       |
| 3-Rear Floorpan above Axle         | 12-Left Side Lower B-pillar              |
| 4-Left Side Sill at Rear Seat      | 13-Left Side Middle B-pillar             |
| 5-Left Front Side Sill             | 14-Left Side Lower A-pillar              |
| 6-Left Front Door on Centerline    | 15-Left Side Middle A-pillar             |
| 7-Right Rear Occupant Compartment  | 16-Left Side Front Seat Track at H-point |
| 8-Left Front Door Mid Rear         | 17-Left Rear Seat Track at H-point       |
| 9-Left Front Door Upper Centerline | 18-Vehicle Center of Gravity             |

# Data Sheet 13 (Continued)

## Test Vehicle Accelerometer Locations and Data Summary

Vehicle: 2003 Mazda 6 4-door

NHTSA No.: C35403

TEST NUMBER: 030317-2				POSITIVE DIRECTION		NEGATIVE DIRECTION	
No. LOCATION	X	Y	Z				
1 RIGHT SIDE SILL	3155 mm	682 mm	-278 mm				
AT FRONT SEAT							
LONGITUDINAL			3.7 g	@ 63.0 ms	6.8 g	@ 10.6 ms	
LATERAL			21.1 g	@ 6.6 ms	2.8 g	@ 124.7 ms	
VERTICAL			3.3 g	@ 29.0 ms	7.2 g	@ 21.3 ms	
RESULTANT			22.3 g	@ 6.8 ms			
2 RIGHT SIDE SILL	2002 mm	680 mm	-273 mm				
AT REAR SEAT							
LONGITUDINAL			4.6 g	@ 62.3 ms	7.0 g	@ 11.3 ms	
LATERAL			30.9 g	@ 6.5 ms	2.5 g	@ 122.7 ms	
VERTICAL			5.3 g	@ 52.6 ms	8.7 g	@ 16.6 ms	
RESULTANT			31.2 g	@ 6.6 ms			
3 REAR FLOORPAN	1055 mm	0 mm	-525 mm				
ABOVE AXLE							
LONGITUDINAL			4.6 g	@ 59.7 ms	6.6 g	@ 15.4 ms	
LATERAL			23.6 g	@ 6.7 ms	2.1 g	@ 96.0 ms	
VERTICAL			12.3 g	@ 10.0 ms	17.6 g	@ 12.9 ms	
RESULTANT			24.3 g	@ 6.6 ms			
4 LEFT SIDE SILL	1995 mm	-680 mm	-275 mm				
AT REAR SEAT							
LATERAL			93.5 g	@ 7.0 ms	31.5 g	@ 15.0 ms	
5 LEFT SIDE SILL	3142 mm	-685 mm	-277 mm				
AT FRONT SEAT							
LATERAL			50.0 g	@ 5.4 ms	4.8 g	@ 12.2 ms	

Data Sheet 13 (Continued)

Test Vehicle Accelerometer Locations and Data Summary

Vehicle: 2003 Mazda 6 4-door

NHTSA No.: C35403

TEST NUMBER: 030317-2  
No. LOCATION

POSITIVE  
DIRECTION

NEGATIVE  
DIRECTION

X

Y

Z

6 LEFT FRONT DOOR ON CENTERLINE LATERAL	2781 mm	-775 mm	-419 mm	---	---	---
7 RIGHT REAR OCCUPANT COMPARTMENT LATERAL	1872 mm	352 mm	-270 mm	---	---	---
8 LEFT FRONT DOOR MIDREAR LATERAL	2463 mm	-780 mm	-410 mm	30.4 g @ 6.2 ms	2.4 g @ 122.9 ms	---
9 LEFT FRONT DOOR UPPER CENTERLINE LATERAL	2665 mm	-781 mm	-847 mm	---	---	---
10 LEFT REAR DOOR MIDREAR LATERAL	1480 mm	-758 mm	-648 mm	161.2 g @ 18.6 ms	132.8 g @ 29.0 ms	---
11 LEFT REAR DOOR UPPER CENTERLINE LATERAL	1670 mm	-731 mm	-925 mm	100.0 g @ 16.8 ms	43.5 g @ 9.8 ms	---
12 LEFT LOWER B-POST LATERAL	2255 mm	-746 mm	-532 mm	98.8 g @ 18.7 ms	96.5 g @ 33.0 ms	---
				222.6 g @ 4.6 ms	42.6 g @ 11.1 ms	---

# Data Sheet 13 (Continued)

## Test Vehicle Accelerometer Locations and Data Summary

Vehicle: 2003 Mazda 6 4-door

NHTSA No.: Q35403

TEST NUMBER: 030317-2

No. LOCATION

X	Y	Z	POSITIVE DIRECTION	NEGATIVE DIRECTION
---	---	---	-----------------------	-----------------------

13 LEFT MIDDLE B-POST LATERAL	2227 mm	-722 mm	-662 mm	202.5 g @ 4.6 ms @ 18.7 g @ 13.6 ms
----------------------------------	---------	---------	---------	-------------------------------------

14 LEFT LOWER A-POST LATERAL	3225 mm	-740 mm	-404 mm	120.4 g @ 2.8 ms @ 24.9 g @ 12.2 ms
---------------------------------	---------	---------	---------	-------------------------------------

15 LEFT MIDDLE A-POST LATERAL <sup>1</sup>	3235 mm	-730 mm	-620 mm	---
---	---------	---------	---------	-----

16 LEFT FRONT SEAT TRACK LATERAL	2520 mm	-603 mm	-274 mm	226.1 g @ 36.1 ms @ 96.5 g @ 29.7 ms
-------------------------------------	---------	---------	---------	--------------------------------------

17 LEFT REAR SEAT TRACK LATERAL	1799 mm	-644 mm	-339 mm	172.6 g @ 6.9 ms @ 74.7 g @ 10.2 ms
------------------------------------	---------	---------	---------	-------------------------------------

18 VEHICLE CENTER OF GRAVITY	2557 mm	0 mm	-385 mm	---
---------------------------------	---------	------	---------	-----

LONGITUDINAL	1.8 g @ 14.8 ms @ 10.4 g @ 8.4 ms
LATERAL	23.7 g @ 6.9 ms @ 2.3 g @ 123.8 ms
VERTICAL	8.1 g @ 15.1 ms @ 6.4 g @ 9.3 ms
RESULTANT	25.1 g @ 7.3 ms

REFERENCE: X: + FORWARD FROM REAR BUMPER

Y: + RIGHTWARD FROM VEHICLE CENTERLINE

Z: + DOWNWARD FROM GROUND LEVEL

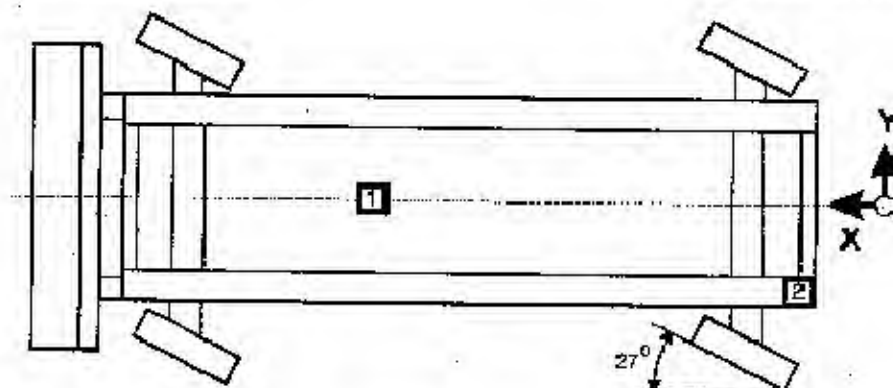
For acceleration data sign convention, see Report Sign Convention in Appendix D.  
<sup>1</sup> See DATA ACQUISITION EXPLANATIONS

# Data Sheet 14

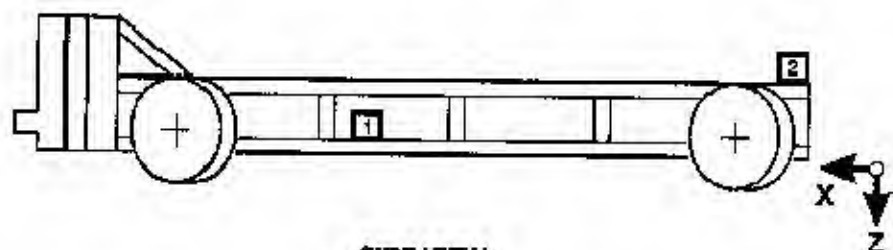
## MDB Accelerometer Locations and Data Summary

Vehicle: 2003 Mazda 6 4-door

NHTSA No.: C35403



TOP VIEW



SIDE VIEW

Accel. No.	Location	Coordinates (millimeters)			Positive Direction		Negative Direction	
		X*	Y*	Z*	Max. (g)	Time (ms)	Max. (g)	Time (ms)
1	MDB Center of Gravity	1853	0	-519				
	Longitudinal X				3.1	117.4	20.8	35.3
	Lateral Y				5.0	60.7	8.0	47.3
	Vertical Z				5.4	58.6	5.8	22.8
	Resultant R				21.8	35.1	---	---
2	Rear Frame Member	411	-738	-628				
	Longitudinal X				2.3	118.0	22.4	32.6
	Lateral Y				2.9	29.7	1.8	152.2

\*Reference: X = Rear Bumper (- Forward)

Y = Vehicle Centerline (+ To Right)

Z = Ground Level (+ Down)

All measurements accurate to within  $\pm 3$  mm.

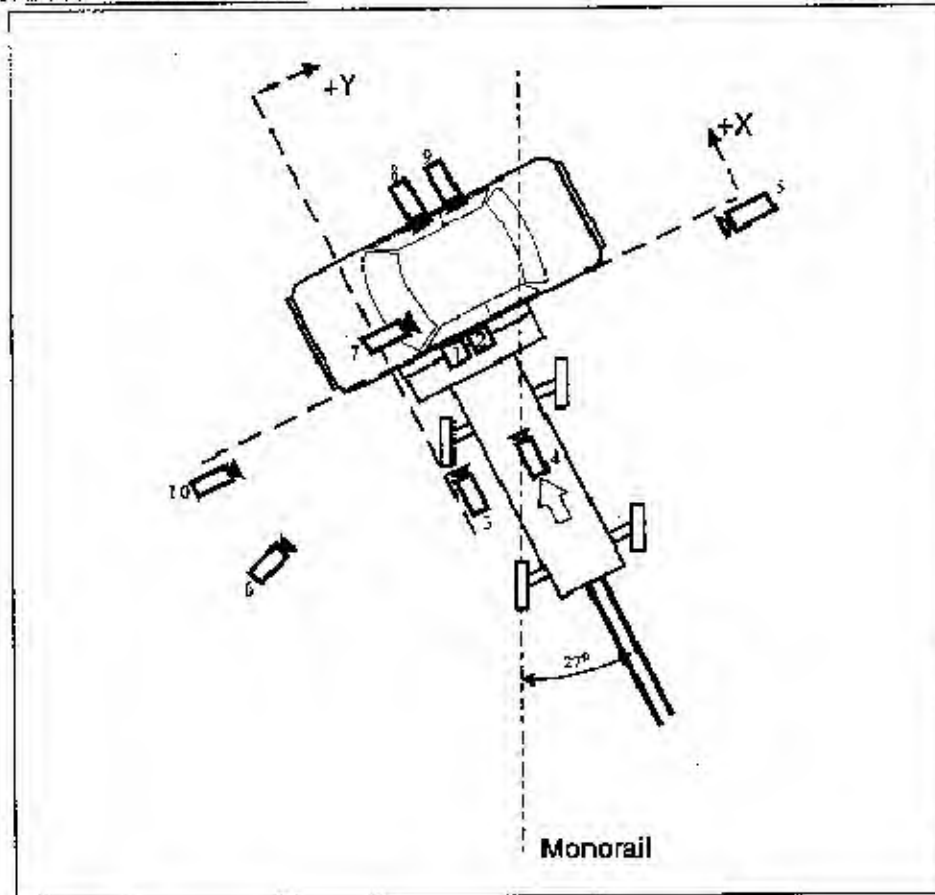


# Data Sheet 15

## High-Speed Camera Locations and Data Summary

Vehicle: 2003 Mazda 6 4-door

NHTSA No.: C35403



Number	Location	Location, mm			Angle (deg)	Camera	
		X	Y	Z		Lens (mm)	Speed (fps)
1	Overhead wide	250	2150	-5750	-77	8.5	— <sup>1</sup>
2	Overhead tight	370	1800	-5750	-83	17	1000
3	Onboard MDB left side	-1750	-40	-720	0.4	13	1025
4	Onboard MDB center	-2480	830	-1353	-7.9	25	1000
5	Right side of MDB	-2440	5920	-1120	-1.1	13	— <sup>2</sup>
6	Left side of MDB	-70	-11120	-1100	-0.1	13	1025
7	Onboard vehicle front	370	-480	-1200	0.4	8	— <sup>1</sup>
8	Onboard side front door	1640	450	-1060	-4.7	8	725
9	Onboard side rear door	1600	1300	-1140	-6.5	8	— <sup>3</sup>
10	Digital overall event	-240	-5230	-1100	-4.4	16	1000

+X: Forward (referenced to MDB) from impact point

+Y: Rightward (referenced to MDB) from impact point

-Z: Downward from ground level

<sup>1</sup> Too slow to time

<sup>2</sup> Film broke

<sup>3</sup> LED's to light to read.



Section 5

Vehicle Fuel System Integrity

Data Sheet 16

FMVSS 301 Fuel System Integrity Data

NHTSA No.: C35403

Test Date: 04/01/03

Vehicle Year/Make/Model/Body Style: 2003 Mazda 6 4-door

\*\*\*\*\*

Test Vehicle Impact Type :

- ☐ Frontal (48.28 km/h)  
☐ Oblique (48.28 km/h) with \_\_\_\_° barrier  
face first contacting the (driver/passenger) side  
☐ Rear Moving Barrier (48.28 km/h)  
☐ Lateral Moving Barrier (32.19 km/h)  
☒ Side Impact Moving Deformable Barrier  
(62.1 km/h) contacting the driver's side side

Fuel Spillage Measurement:

1. From impact until vehicle motion ceases
2. For five-minute period after vehicle motion ceases
3. For next 25 minutes.

Actual	Maximum Allowed
0 g	28 g
0 g	142 g
0 g	28 g/1 minute

Solvent Spillage Details :

None

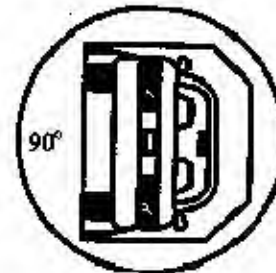
Data Sheet 17

FMVSS 301 Rollover Data

Vehicle: 2003 Mazda 6 4-door

NHTSA No.: C35403

0 - 90 Degrees



1. Determination of Solvent Collection Time Period:

Rollover Fixture 90° Rotation Time	<u>1</u> minutes	<u>30</u> seconds
(Spec. Range = 1 to 3 minutes)		
FMVSS 301 Position Hold Time +	<u>5</u> minutes	<u>0</u> seconds
Total	<u>6</u> minutes	<u>30</u> seconds
Next whole minute interval	<u>7</u> minutes	

2. FMVSS 301 Requirements:

(1) Time Period

First 5 minutes from onset of rotation	6th min.	7th min.	8th min. (if required)
--	----------	----------	------------------------

(2) Maximum Allowable Solvent Spillage

142 g	28 g	28 g	28 g
-------	------	------	------

3. Actual Test Vehicle Solvent Spillage:

0 g	0 g	0 g	N/A
-----	-----	-----	-----

Note: Record spillage for whole minute intervals only as determined above.

4. Solvent Spillage Location(s):

None

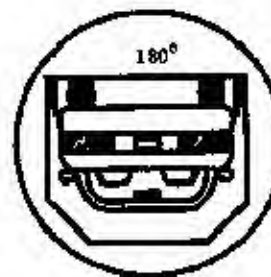
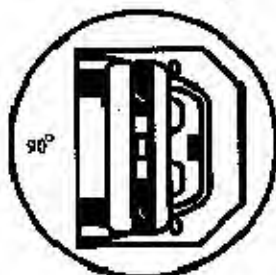
Data Sheet 17 (Continued)

FMVSS 301 Rollover Data

Vehicle: 2003 Mazda 6 4-door

NHTSA No.: C35403

90 - 180 Degrees



1. Determination of Solvent Collection Time Period:

Rollover Fixture 90° Rotation Time      1 minutes      30 seconds  
(Spec. Range = 1 to 3 minutes)  
FMVSS 301 Position II Hold Time +      5 minutes      0 seconds  
Total      6 minutes      30 seconds  
Next whole minute interval      7 minutes

2. FMVSS 301 Requirements:

(1) Time Period

First 5 minutes from onset of rotation	6th min.	7th min.	8th min. (if required)
--	----------	----------	------------------------

(2) Maximum Allowable Solvent Spillage

142 g	28 g	28 g	28 g
-------	------	------	------

3. Actual Test Vehicle Solvent Spillage:

0 g	0 g	0 g	N/A
-----	-----	-----	-----

Note: Record spillage for whole minute intervals only as determined above.

4. Solvent Spillage Location(s):

None

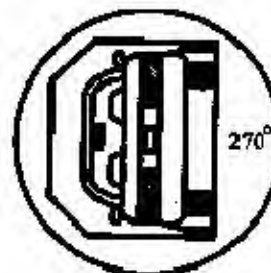
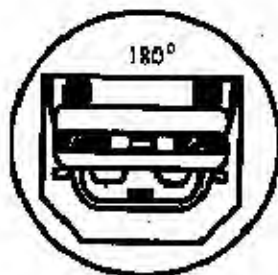
Data Sheet 17 (Continued)

FMVSS 301 Rollover Data

Vehicle: 2003 Mazda 6 4-door

NHTSA No.: C35403

180 - 270 Degrees



1. Determination of Solvent Collection Time Period:

Rollover Fixture 90° Rotation Time      1 minutes      30 seconds  
(Spec. Range = 1 to 3 minutes)

FMVSS 301 Position Hold Time +      5 minutes      0 seconds

Total      6 minutes      30 seconds

Next whole minute interval      7 minutes

2. FMVSS 301 Requirements:

(1) Time Period

First 5 minutes from onset of rotation	6th min.	7th min.	8th min. (if required)
--	----------	----------	------------------------

(2) Maximum Allowable Solvent Spillage

142 g	28 g	28 g	28 g
-------	------	------	------

3. Actual Test Vehicle Solvent Spillage:

0 g	0 g	0 g	N/A
-----	-----	-----	-----

Note: Record spillage for whole minute intervals only as determined above.

4. Solvent Spillage Location(s):

None

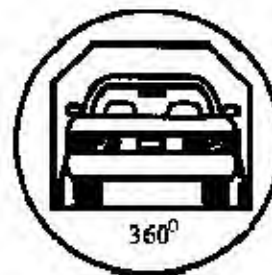
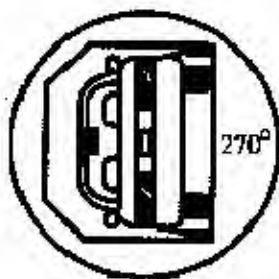
Data Sheet 17 (Continued)

FMVSS 301 Rollover Data

Vehicle: 2003 Mazda 6 4-door

NHTSA No.: C35403

270 - 360 Degrees



1. Determination Of Solvent Collection Time Period:

Rollover Fixture 90° Rotation Time	<u>1</u>	minutes	<u>30</u>	seconds
(Spec. Range = 1 to 3 minutes)				
FMVSS 301 Position Hold Time +	<u>5</u>	minutes	<u>0</u>	seconds
Total	<u>6</u>	minutes	<u>30</u>	seconds
Next whole minute interval	<u>7</u>	minutes		

2. FMVSS 301 Requirements:

(1) Time Period

First 5 minutes from onset of rotation	6th min.	7th min.	8th min. (if required)
--	----------	----------	------------------------

(2) Maximum Allowable Solvent Spillage

142 g	28 g	28 g	28 g
-------	------	------	------

3. Actual Test Vehicle Solvent Spillage:

0 g	0 g	0 g	N/A
-----	-----	-----	-----

Note: Record spillage for whole minute intervals only as determined above.

4. Solvent Spillage Location(s):

None

Appendix A

Photographs



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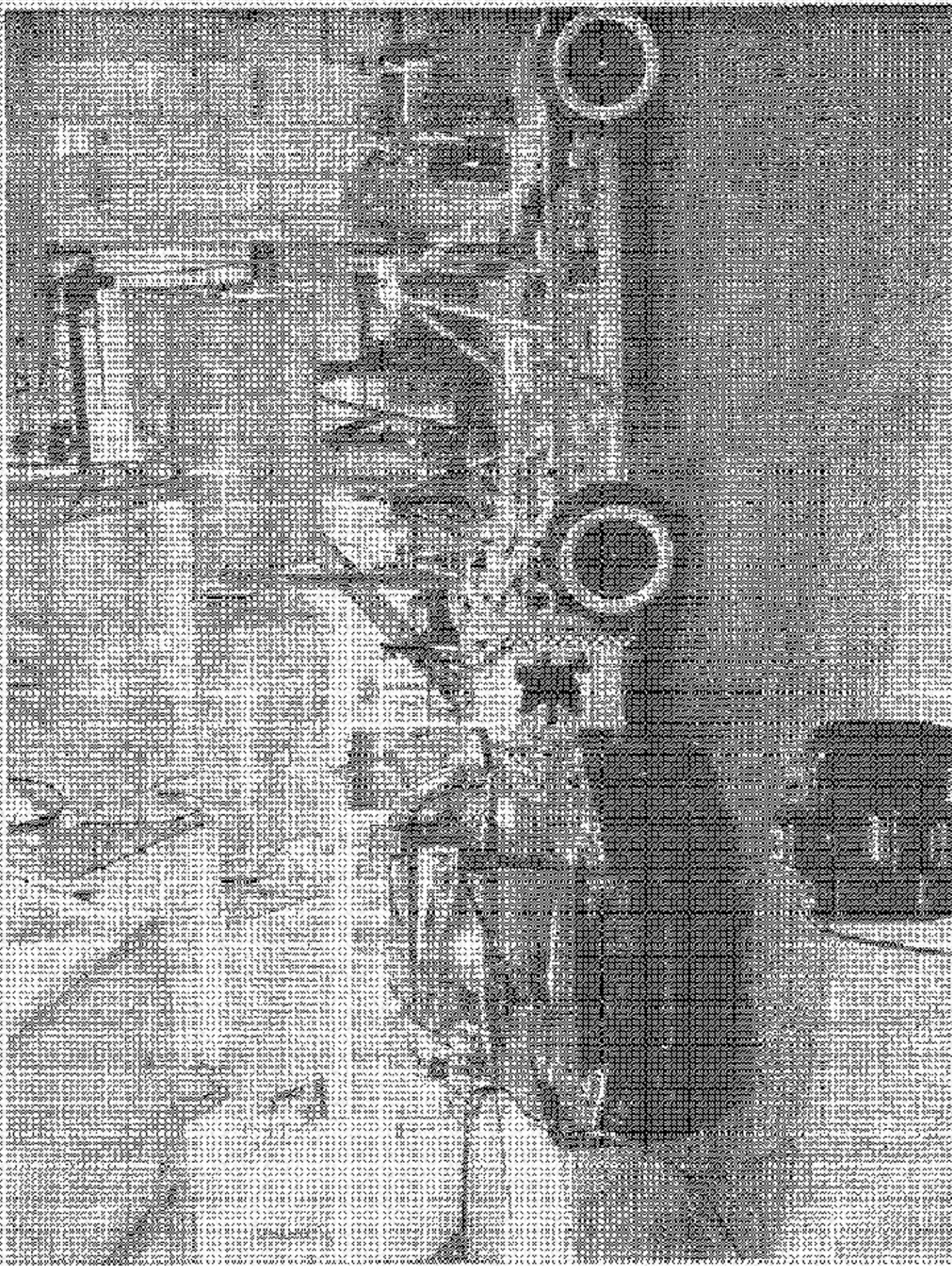


Figure A-1 Pre-Test Front View of Test Vehicle



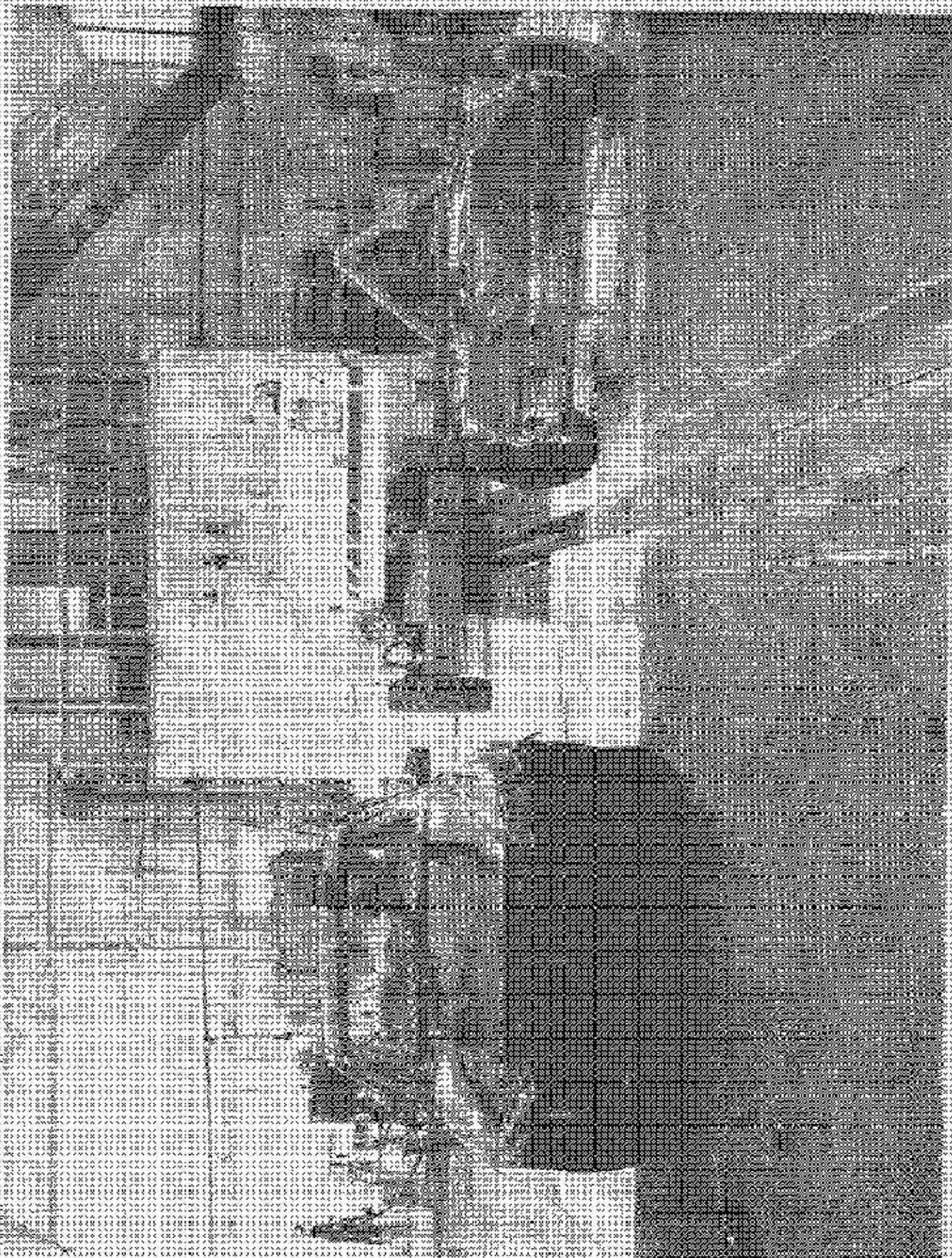


Figure A-2 Post-Test Front View of Test Vehicle



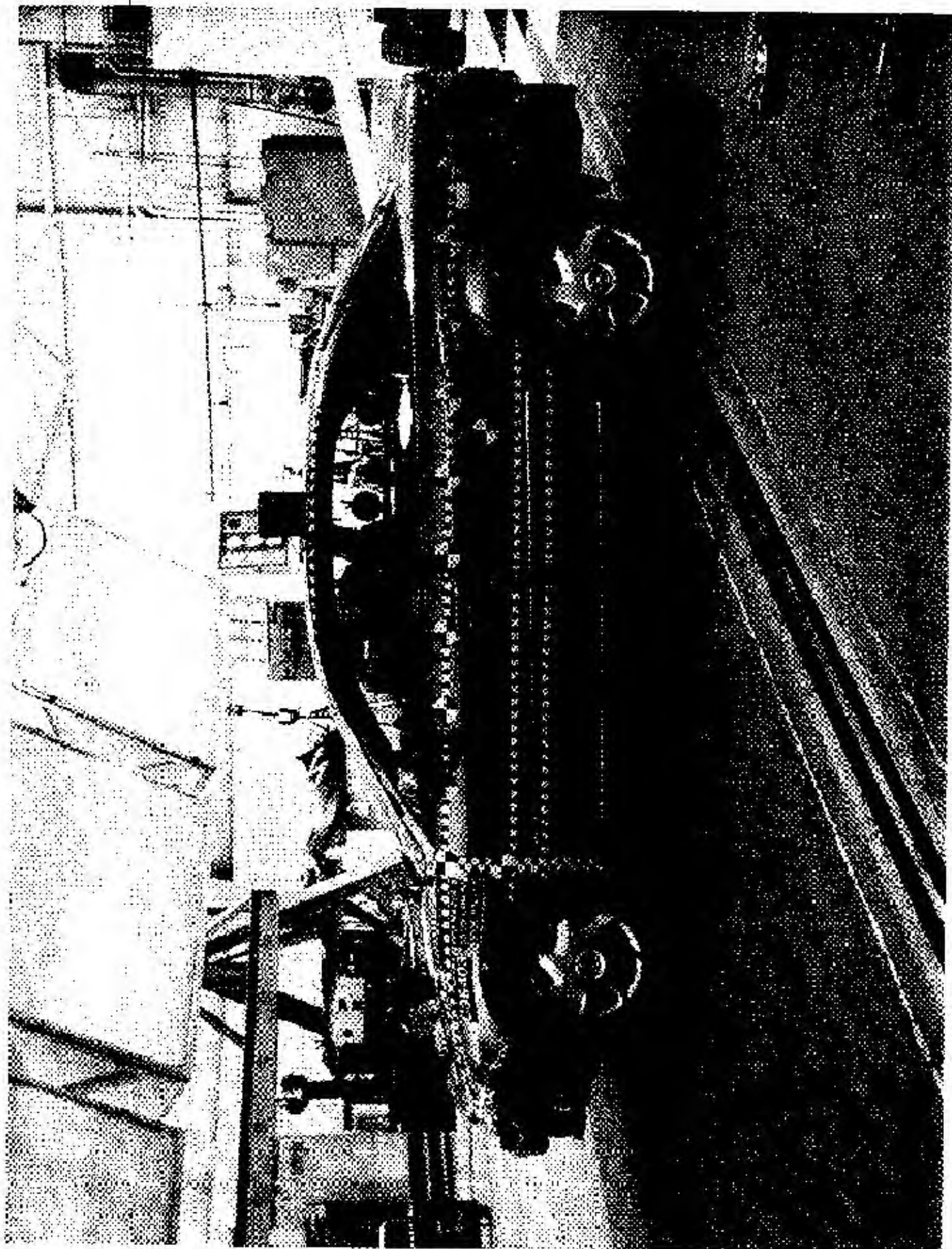


Figure A-3 Pre-Test Impacted Side View of Test Vehicle



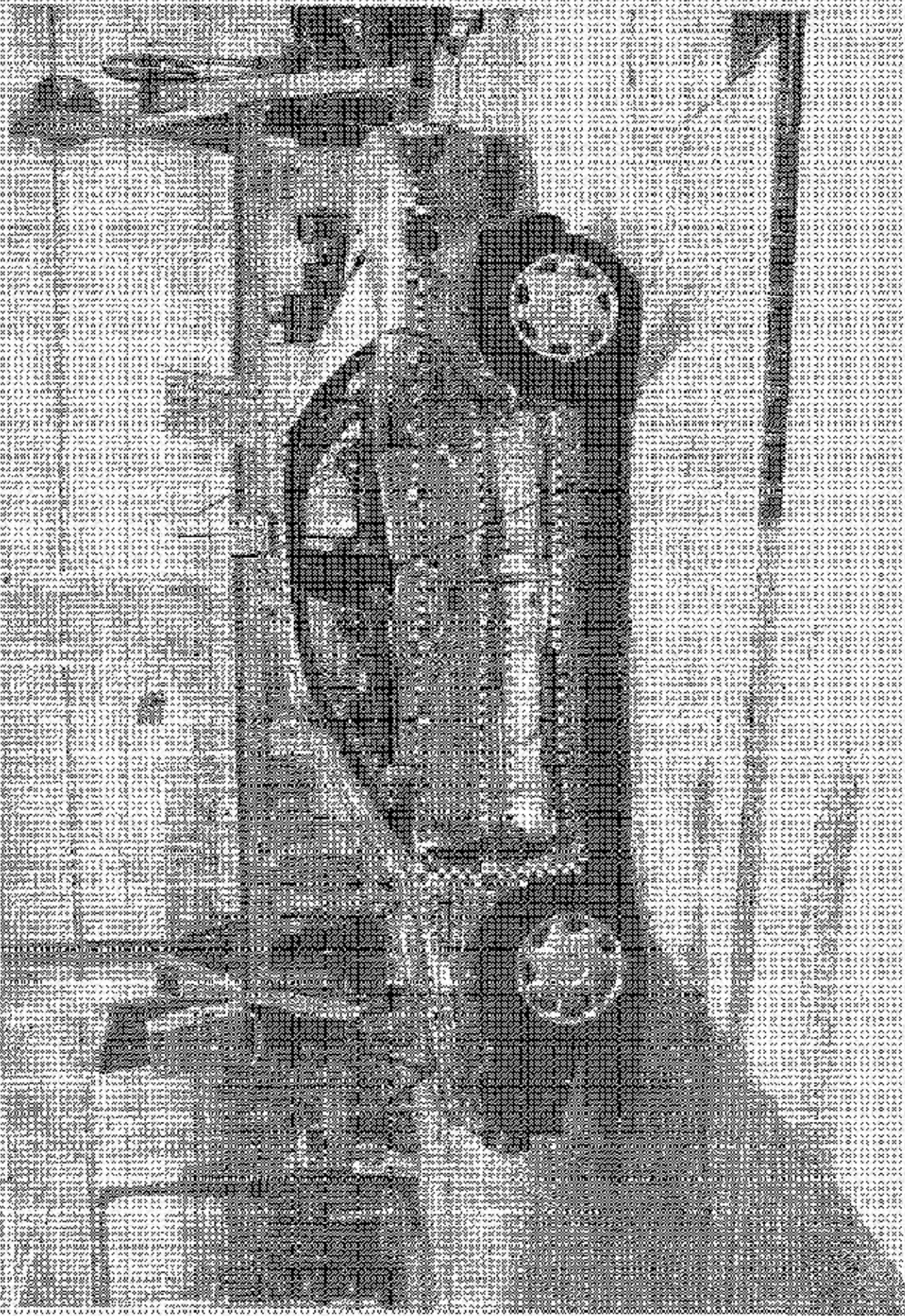


Figure A-2. Post-Test Impacted Side View of Test Vehicle



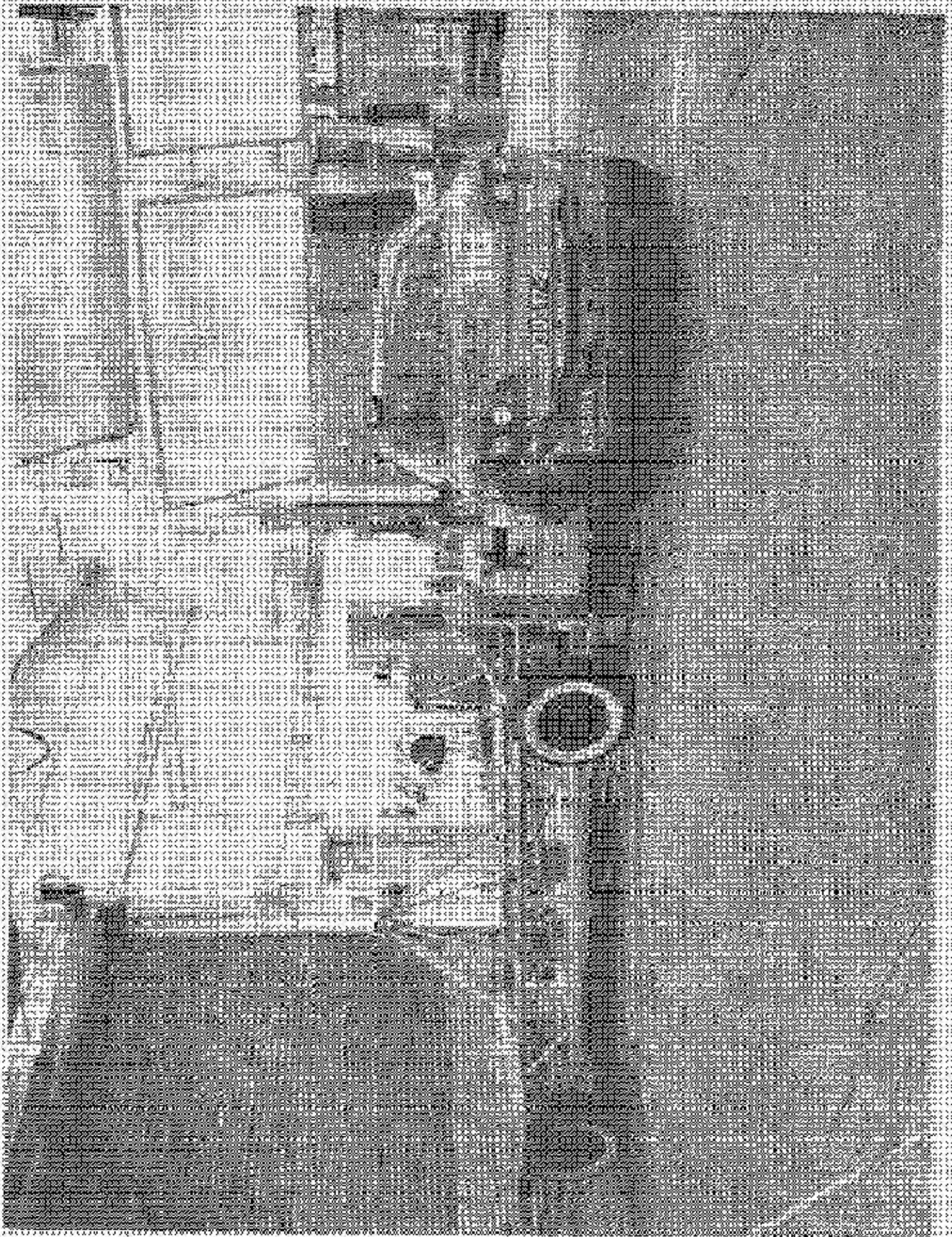


Figure A-3: Pic Test Rear View of Test Vehicle



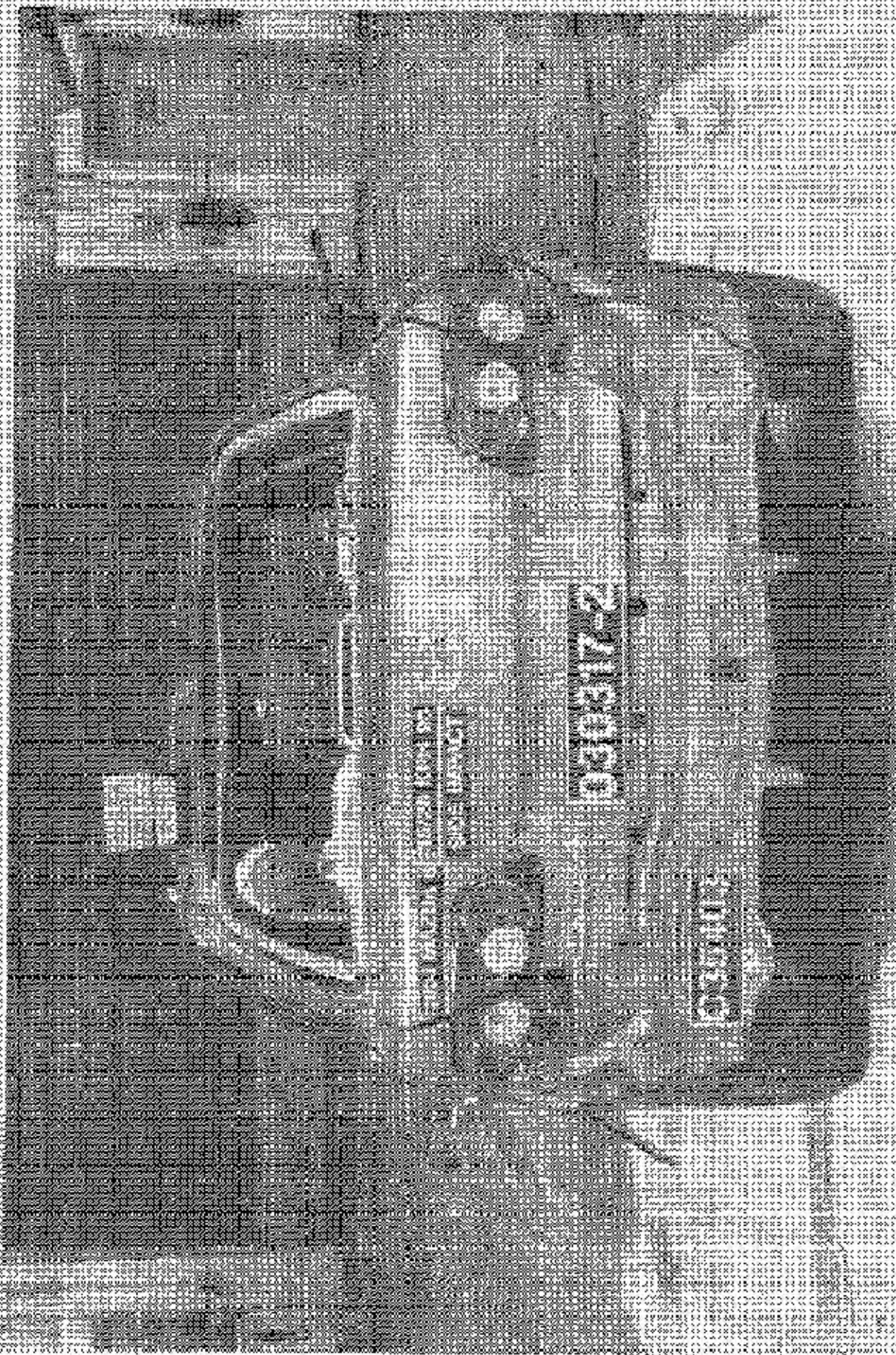


Figure A-4 Post-Test Rear View of Test Vehicle



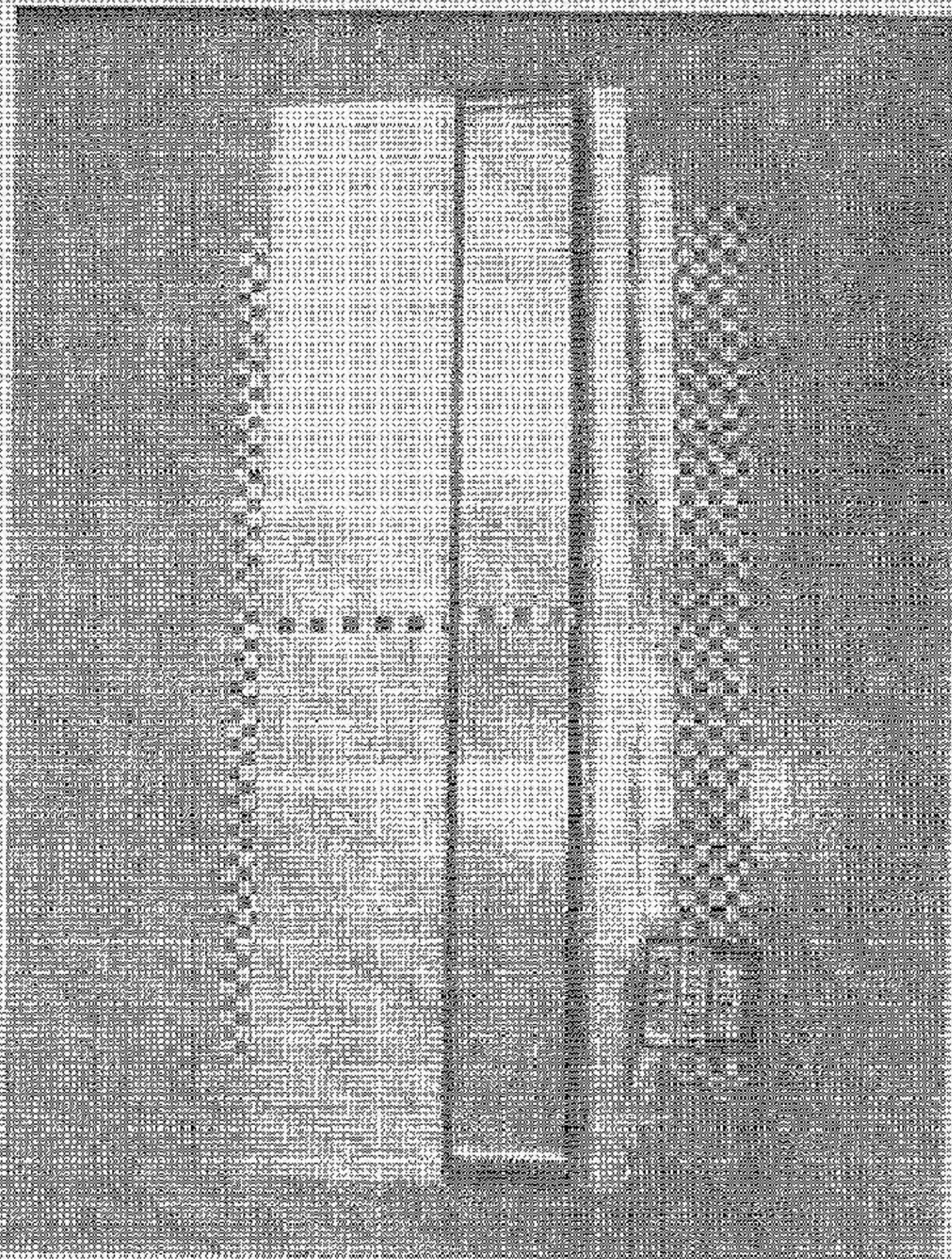


Figure A-7. Pre-Test Frontal View of Impunity Face



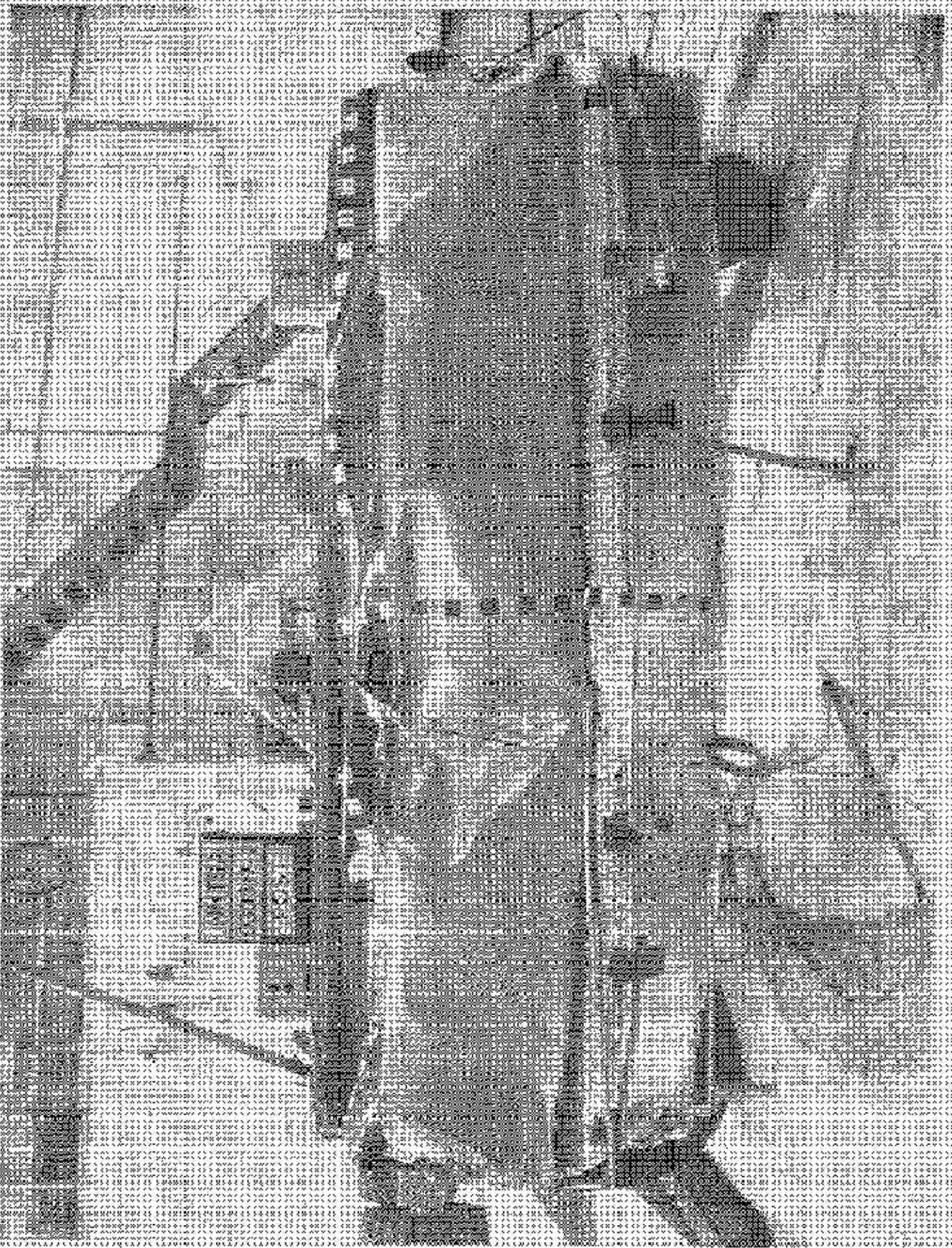


Figure 8.8 Post-Test Frontal View of Impactor Face



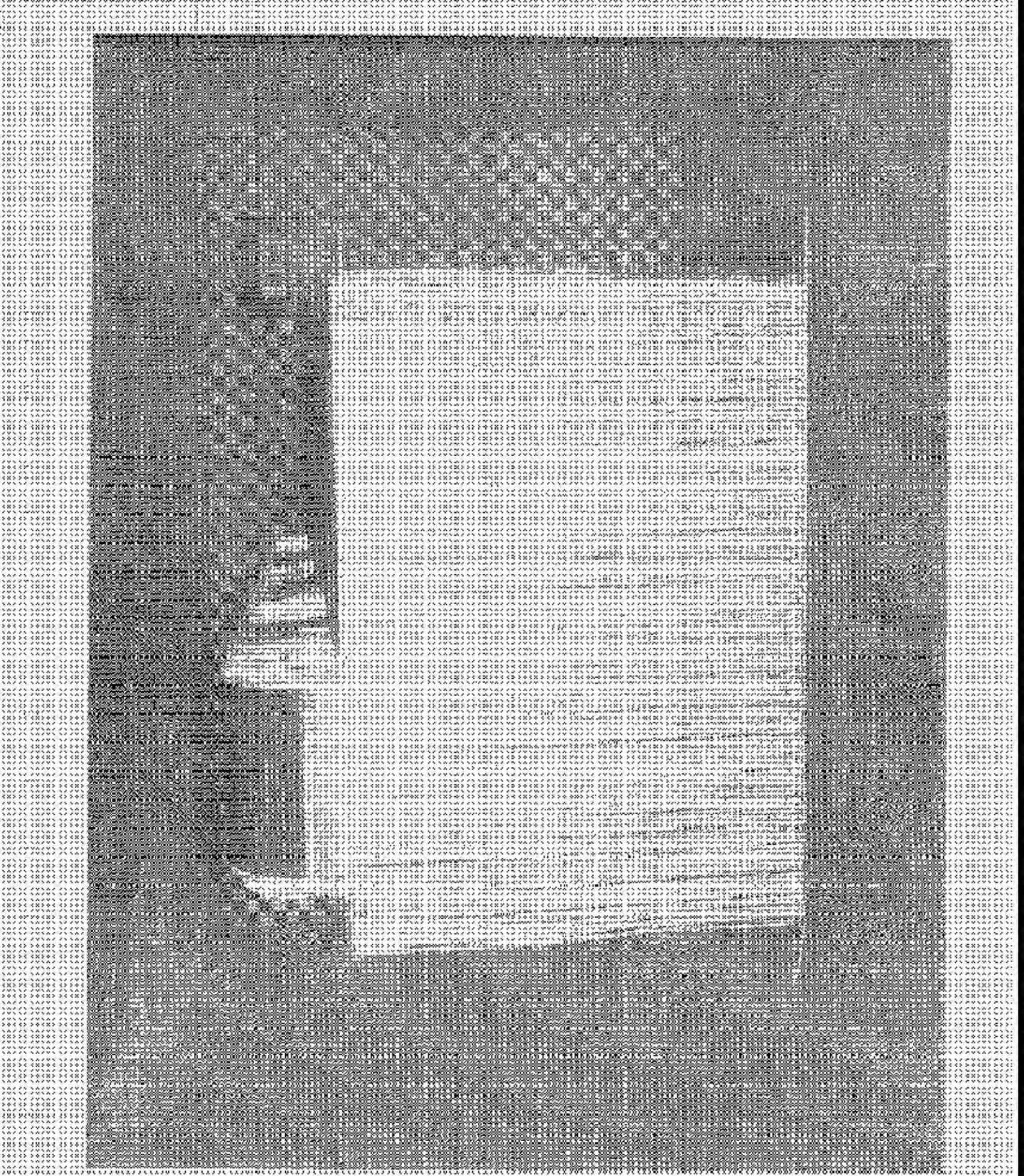


Figure A-7. Pre-Test Left Side View of Impactor Face



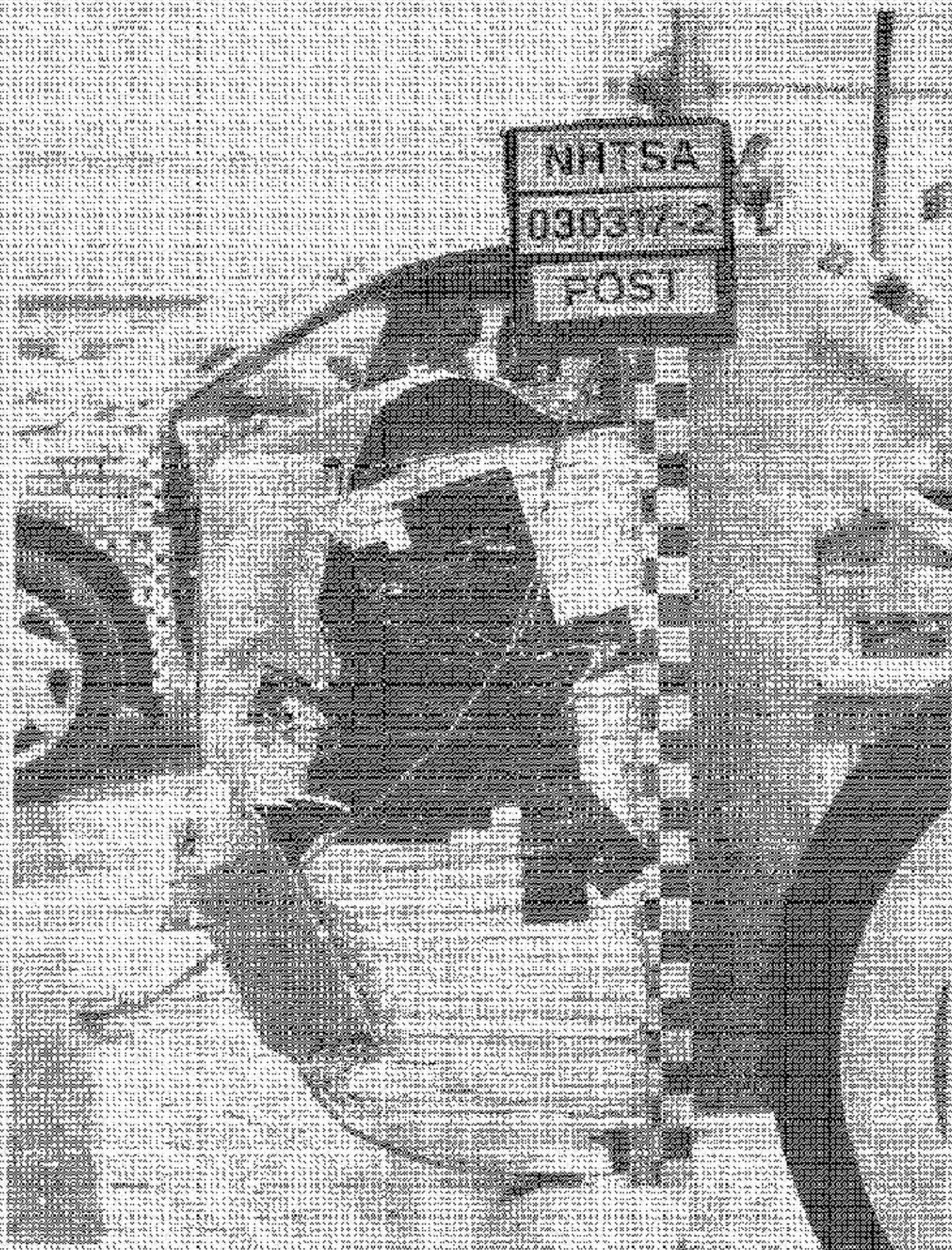


Figure A-10 Post-Test Left Side View of Impactor Face



Figure A-11: Pre-Test Right Side View of Impactor Face

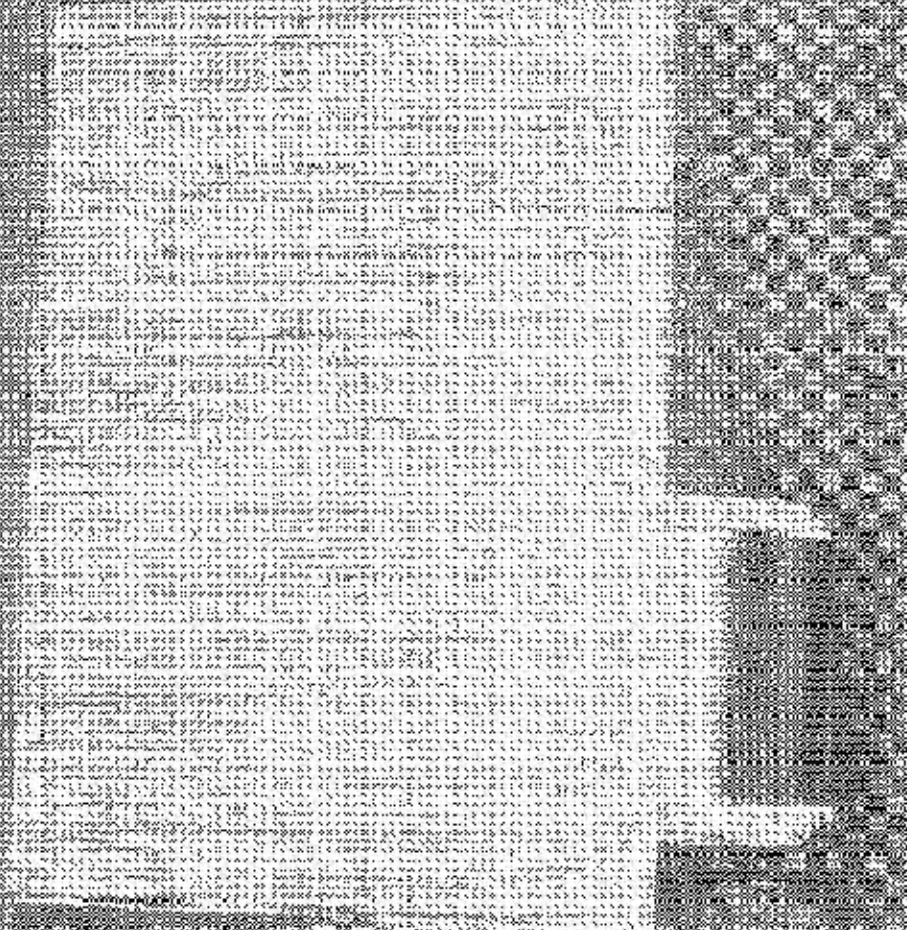


Figure A-11: Pre-Test Right Side View of Impactor Face



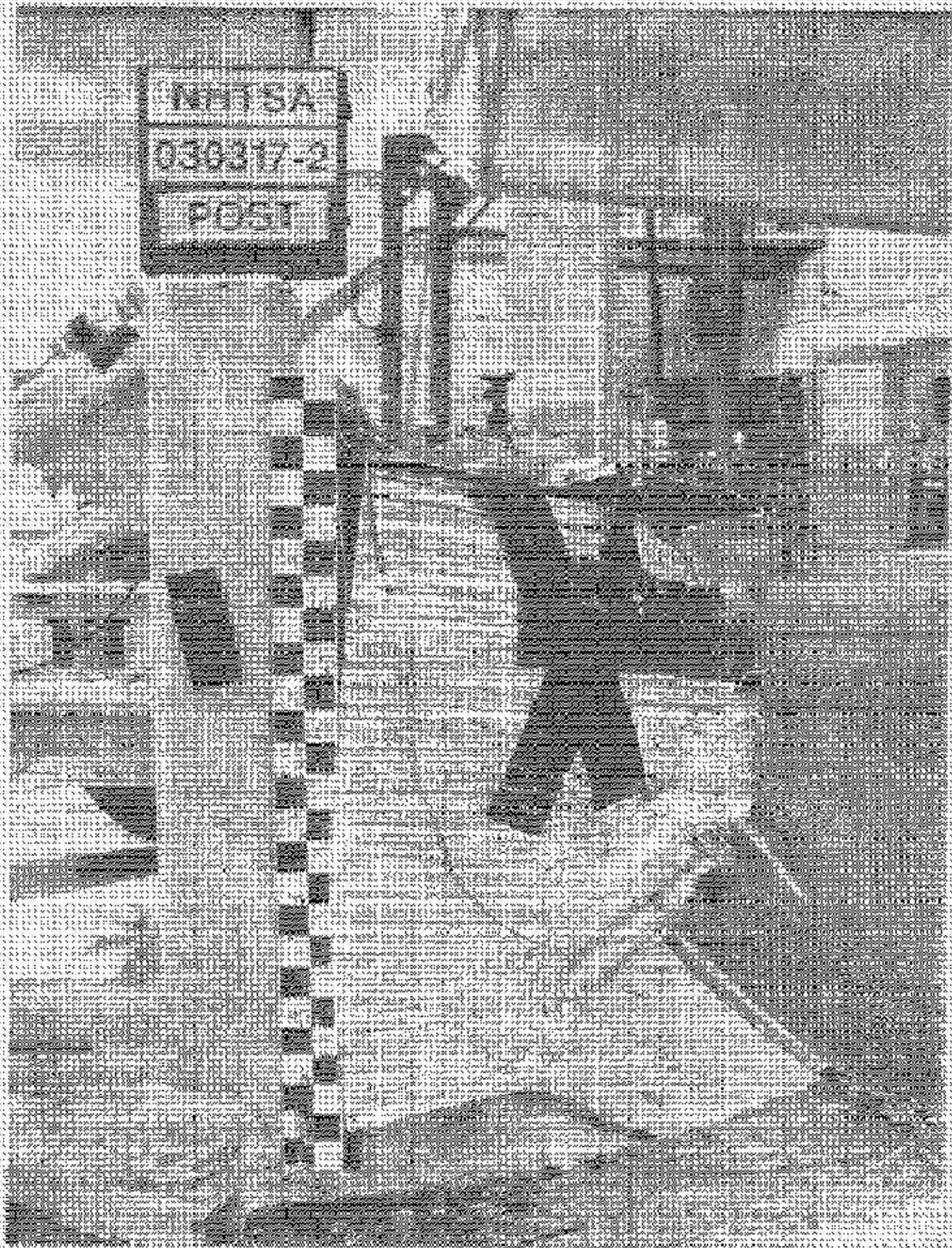


Figure A-12 Push-Test Right Side View of Impactor Face



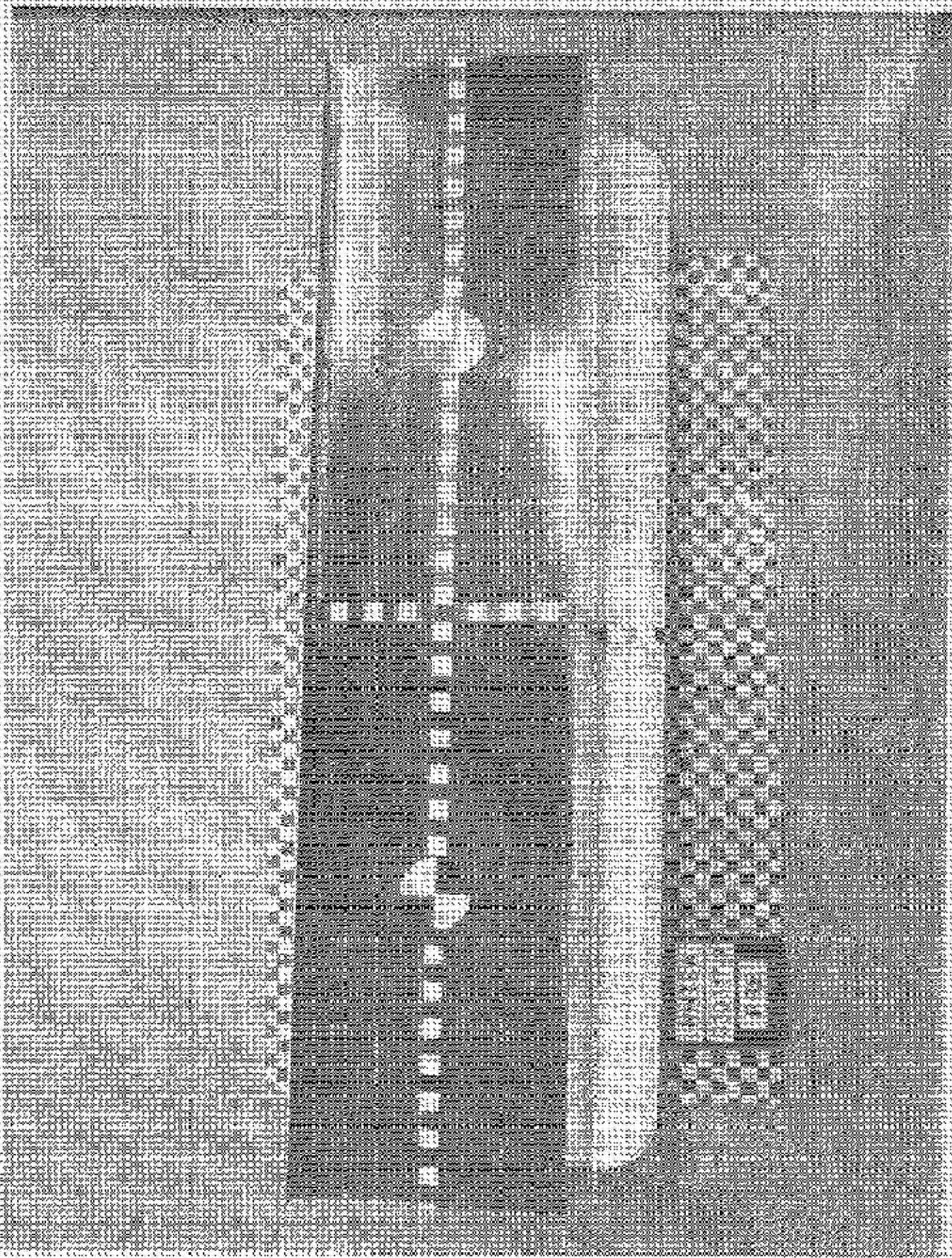


Figure A-13 Pre-Test Top View of Impactor Face



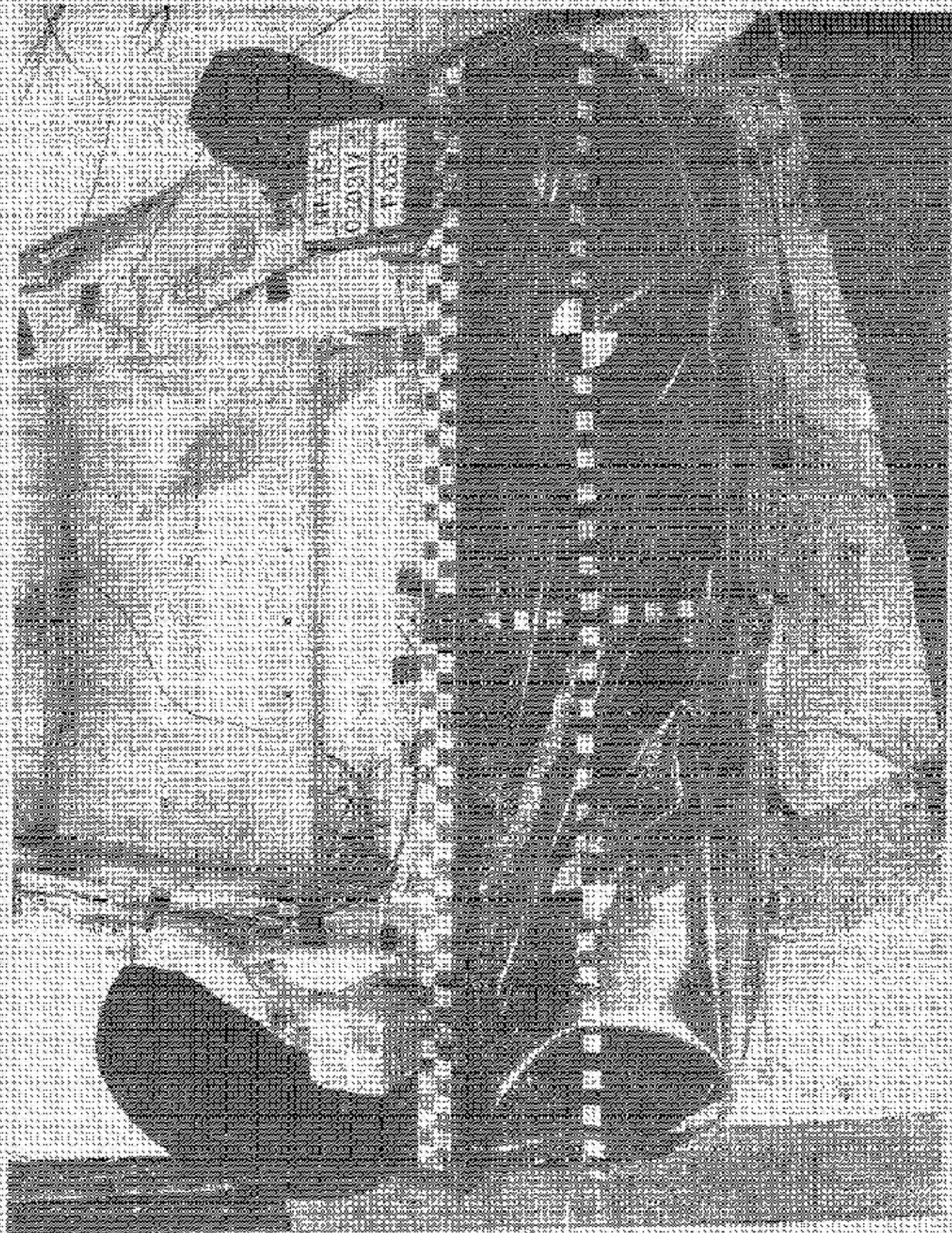


Figure A-11. Post-Test Top View of Impactor Face



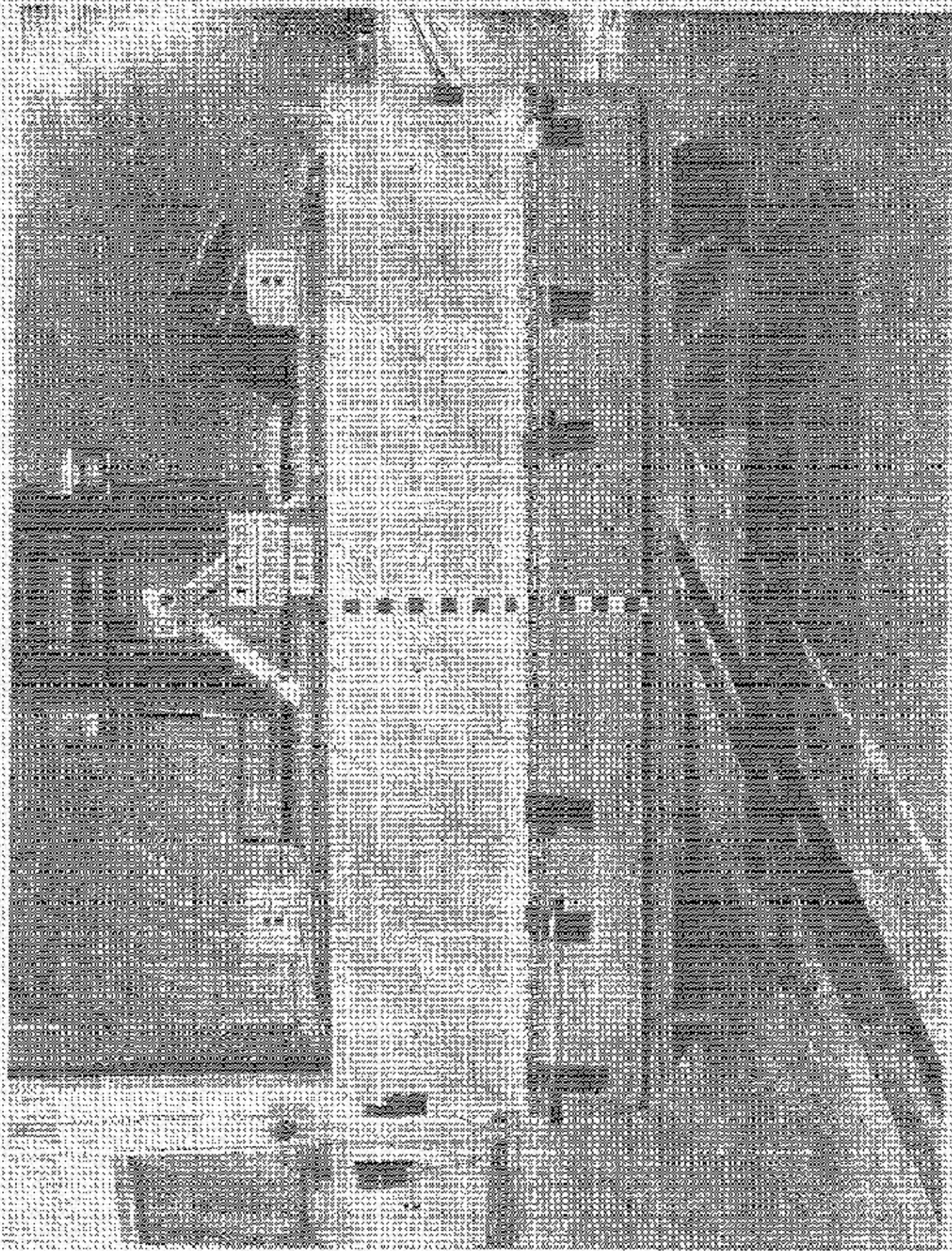


Figure A-15 Pre-Test View of MDB Showing Contact Switches in Place



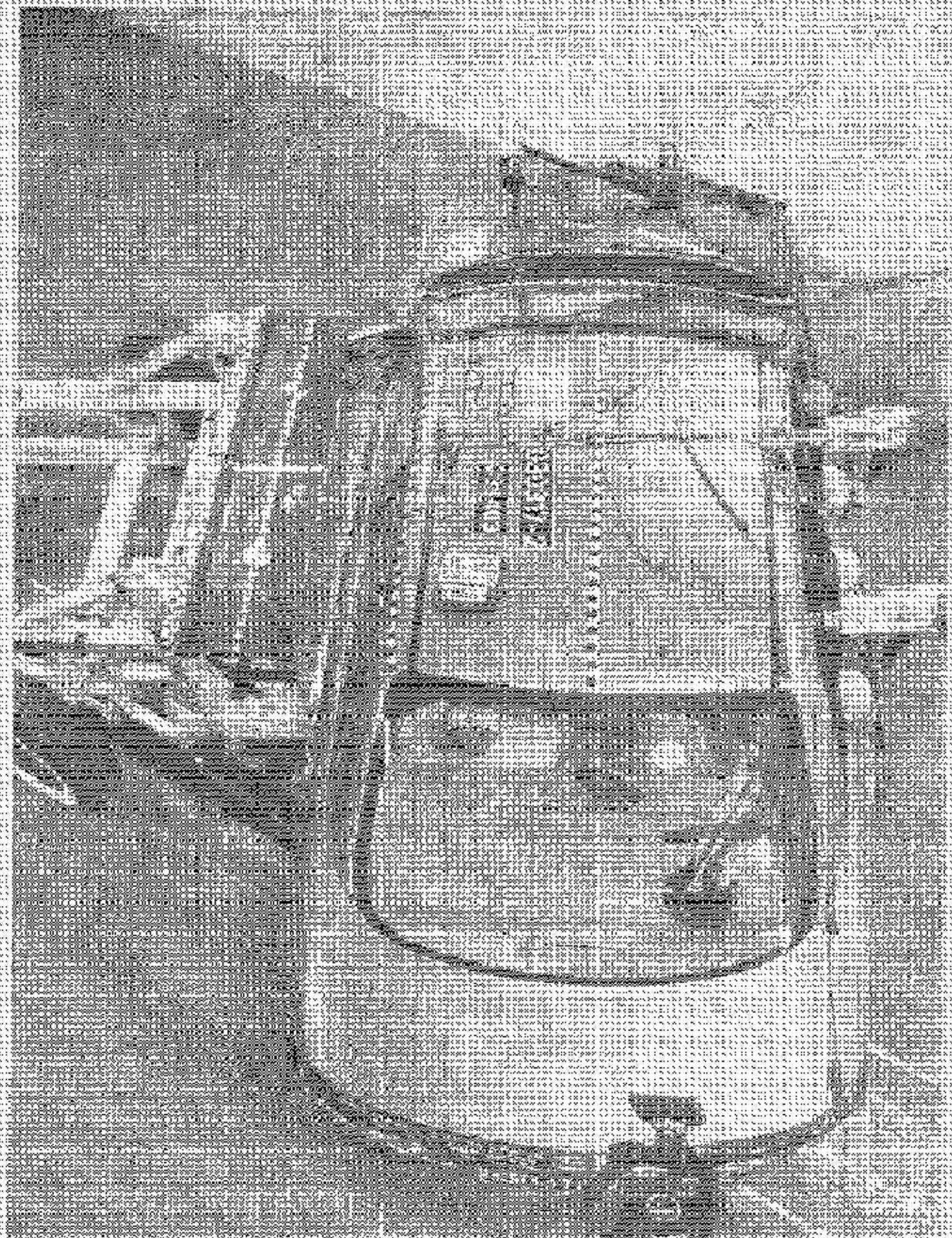


Figure A-16 Pre-Test Overhead View of NPHH Aligned with Vehicle



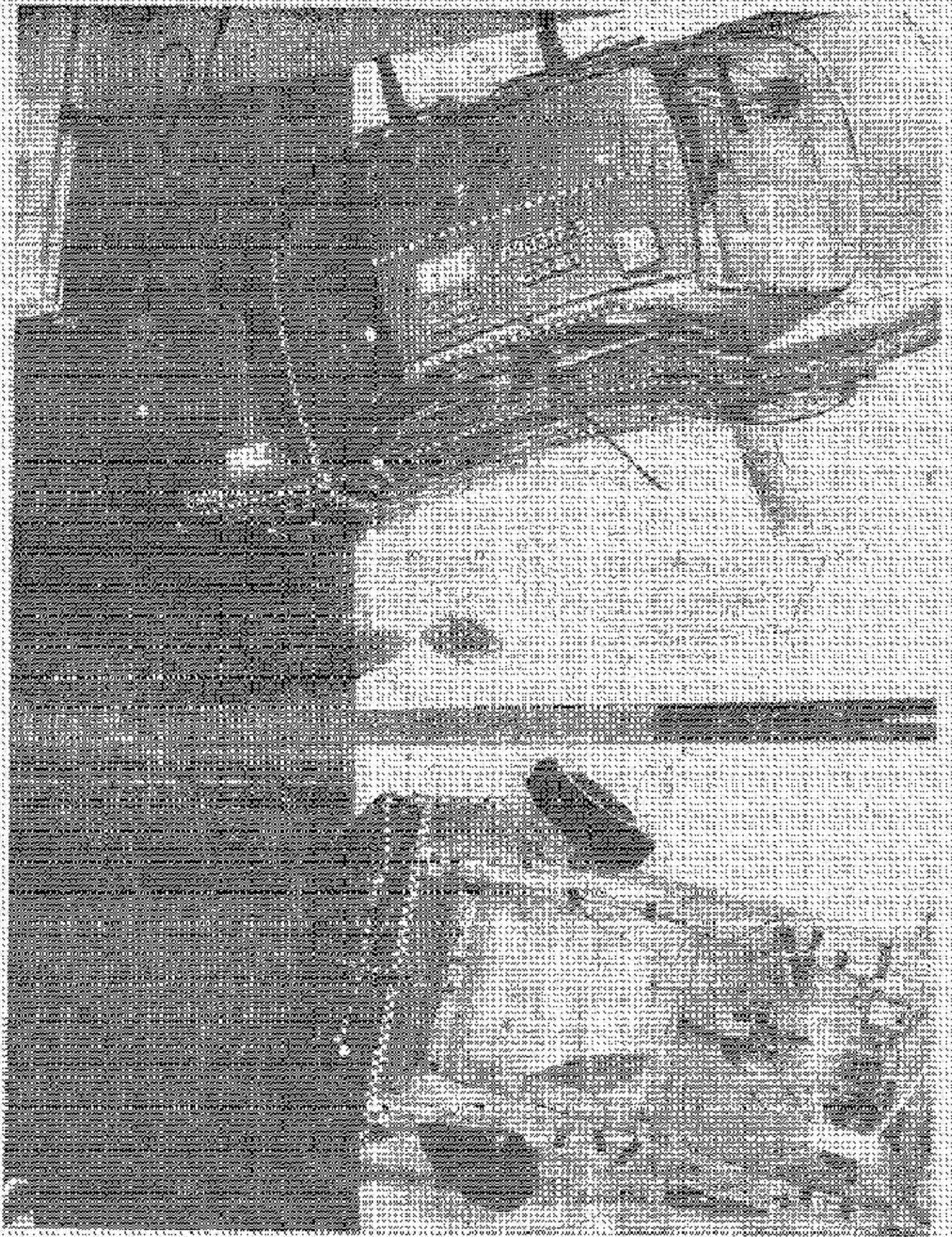


Figure A-17: Post-Test Overhead View of MDB and Vehicle



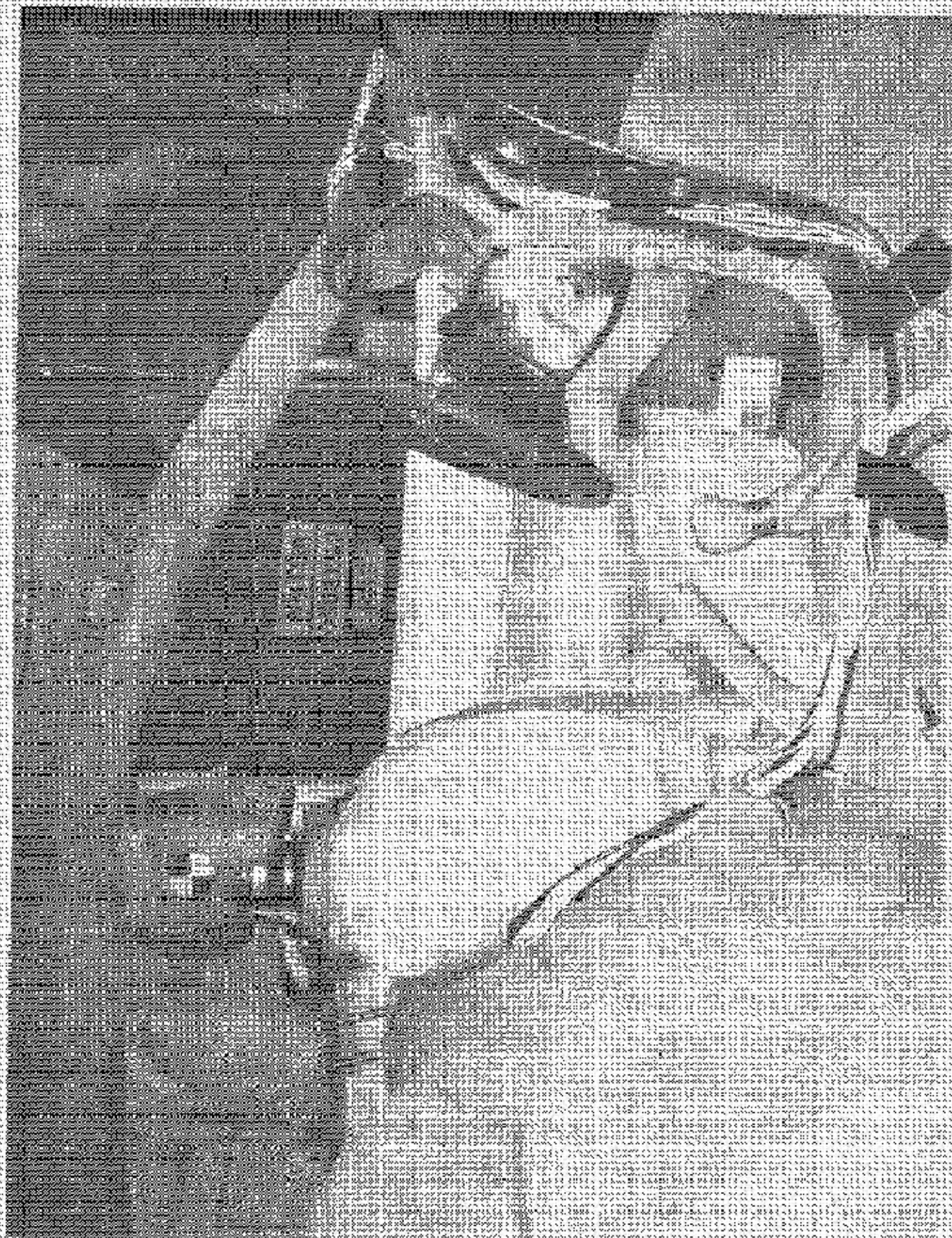


Figure A-15 Pre-Test Right Occupant Compartment View at Front Sign



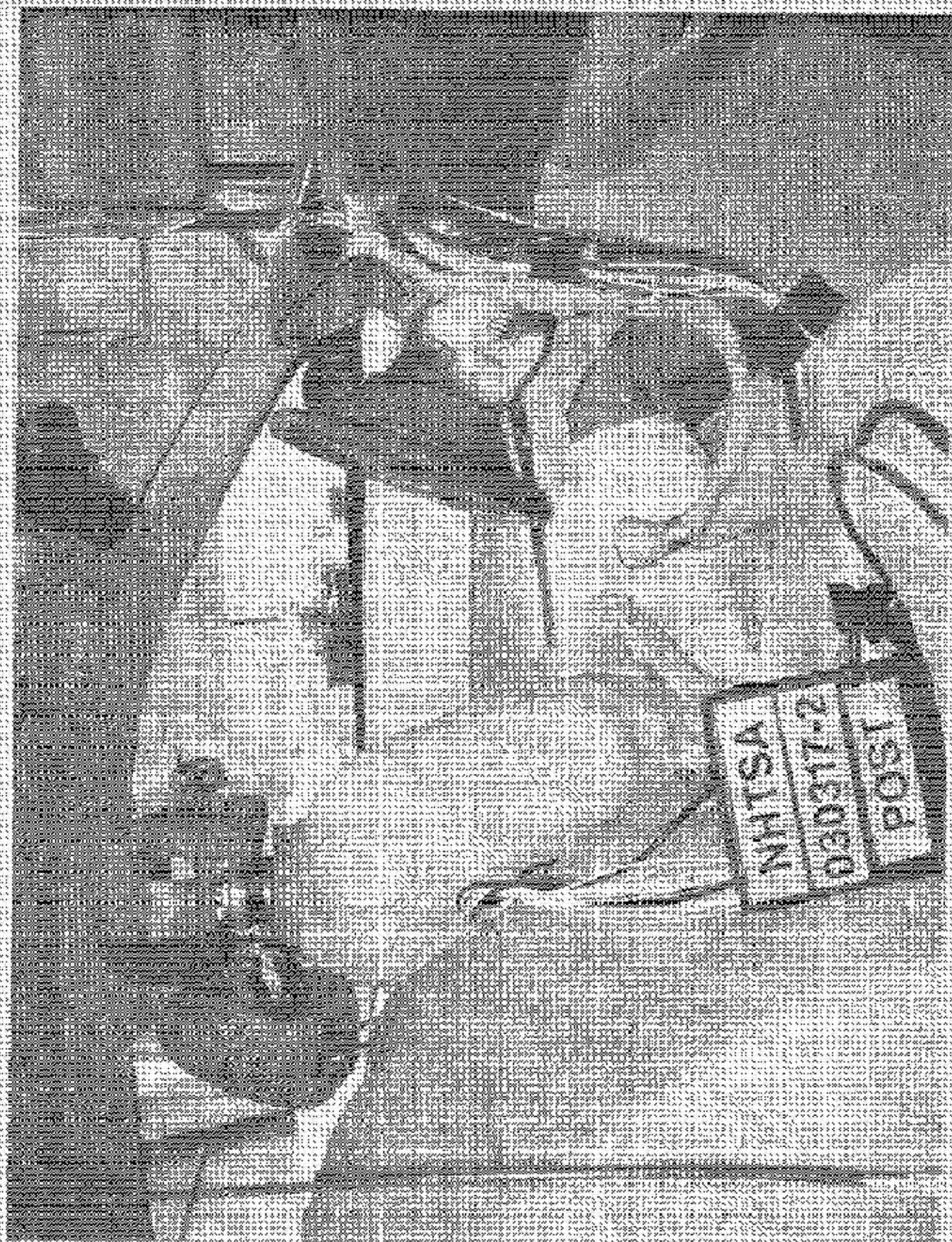


Figure A-19. Post-Test Right Occupant Compartment View of Front SID.



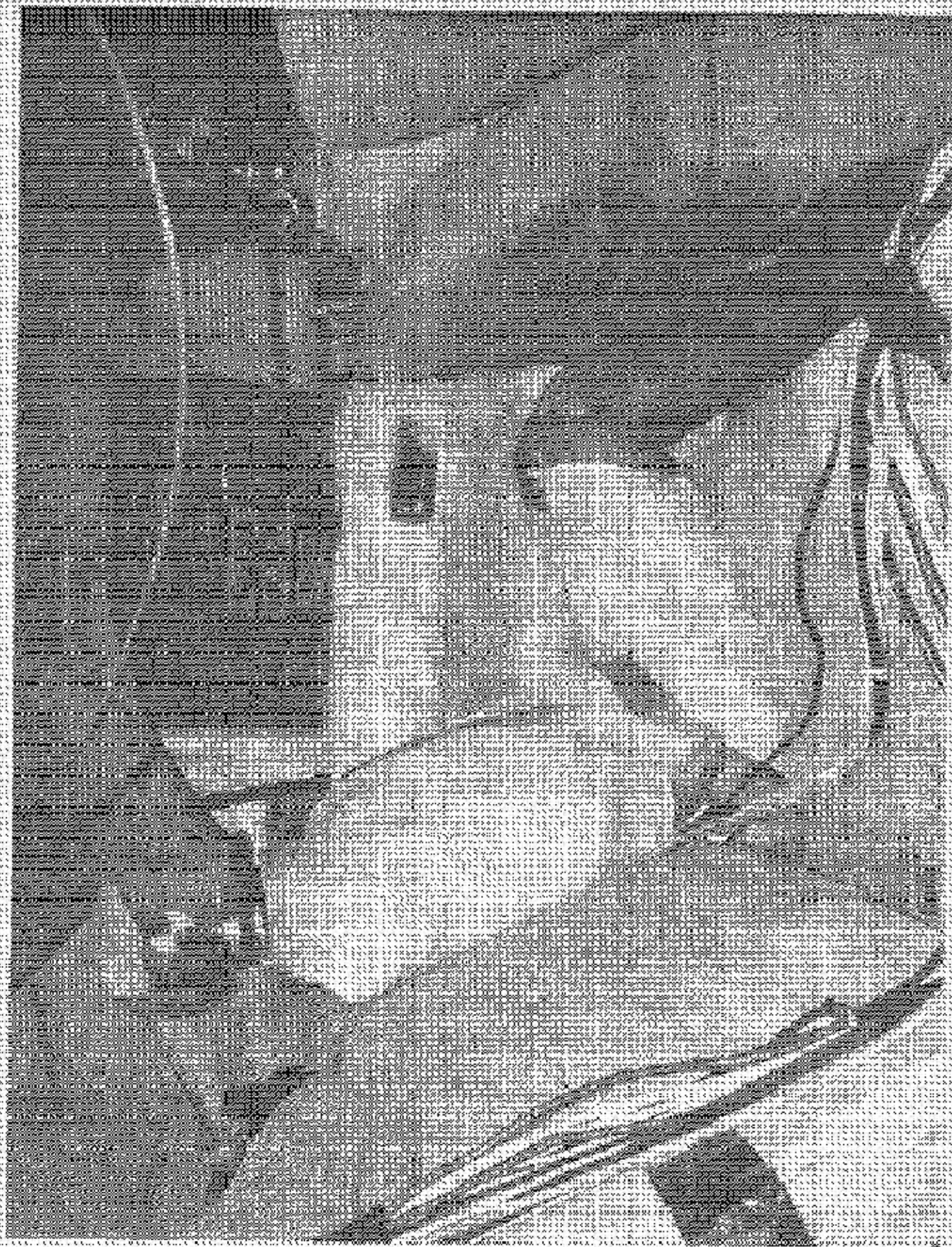


Figure A.20 Pre-Test Right Occupant Compartment View of Rear S4D





Figure A-21 Post-Test Night Occupant Compartment View of Rear SID



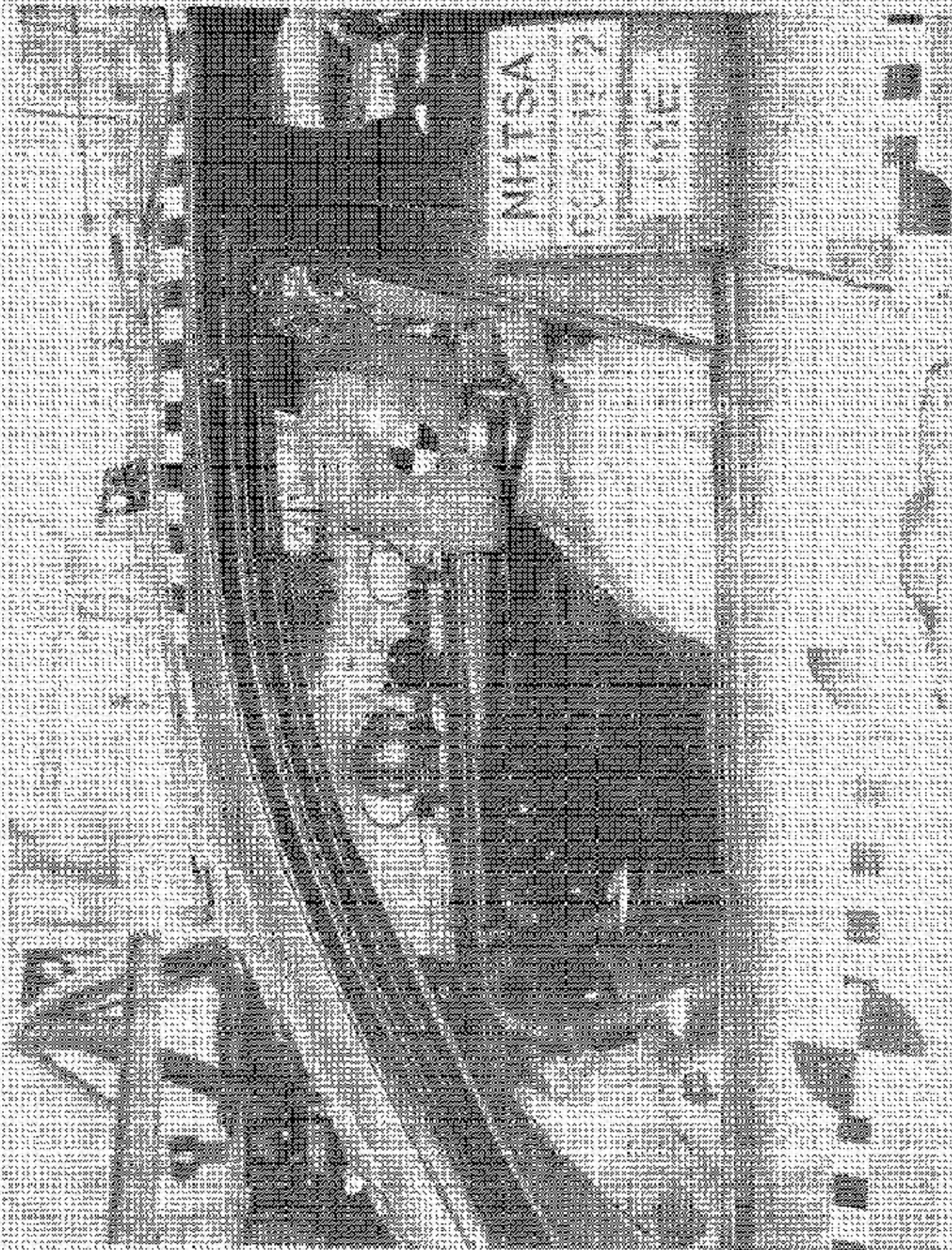


Figure A-23. Pre-Test Left View of Front SID.



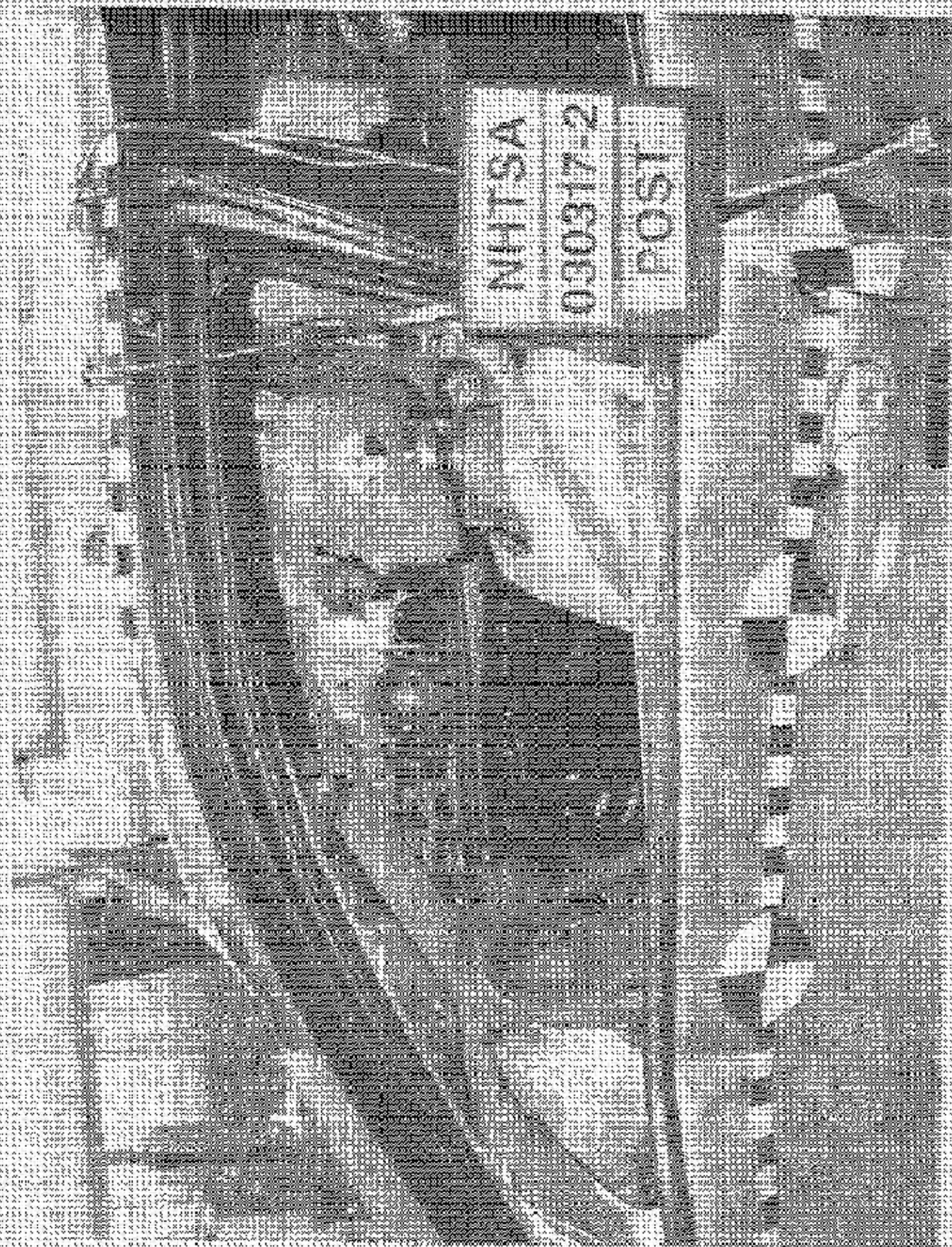


Figure A-25 Post-Test Left View of Front Side



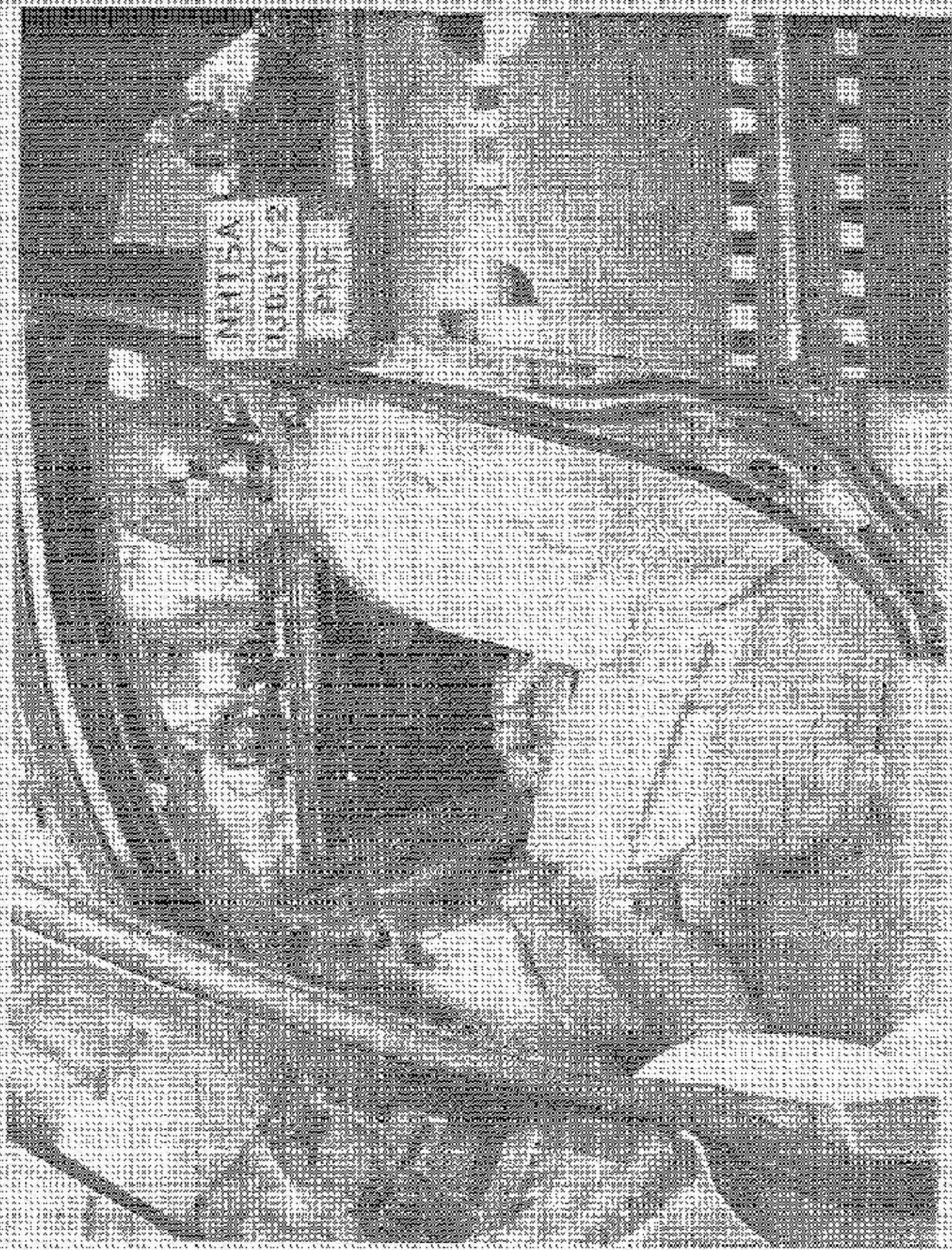


Figure A-24 Pre-Test Left View of Front SID and Bell Position



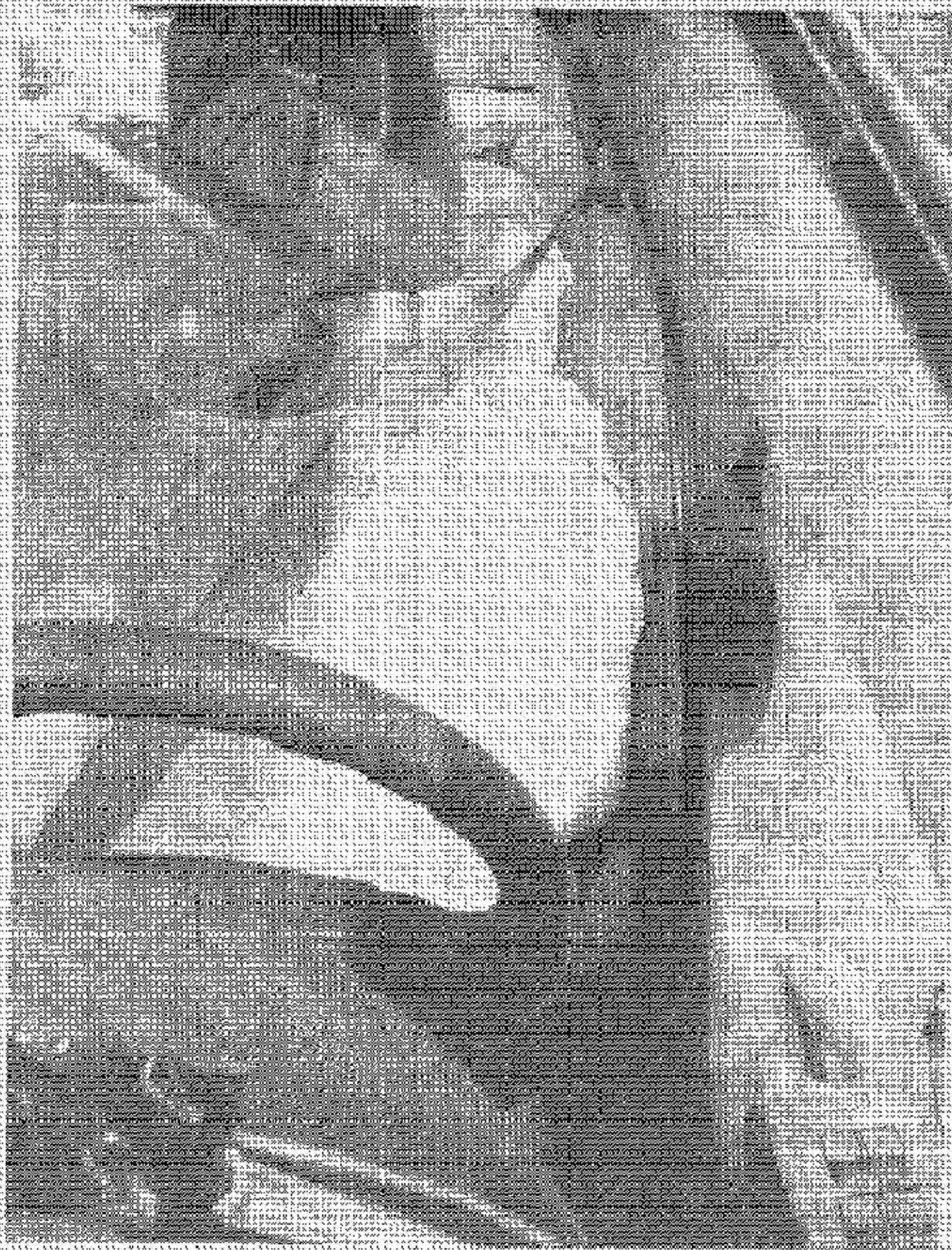


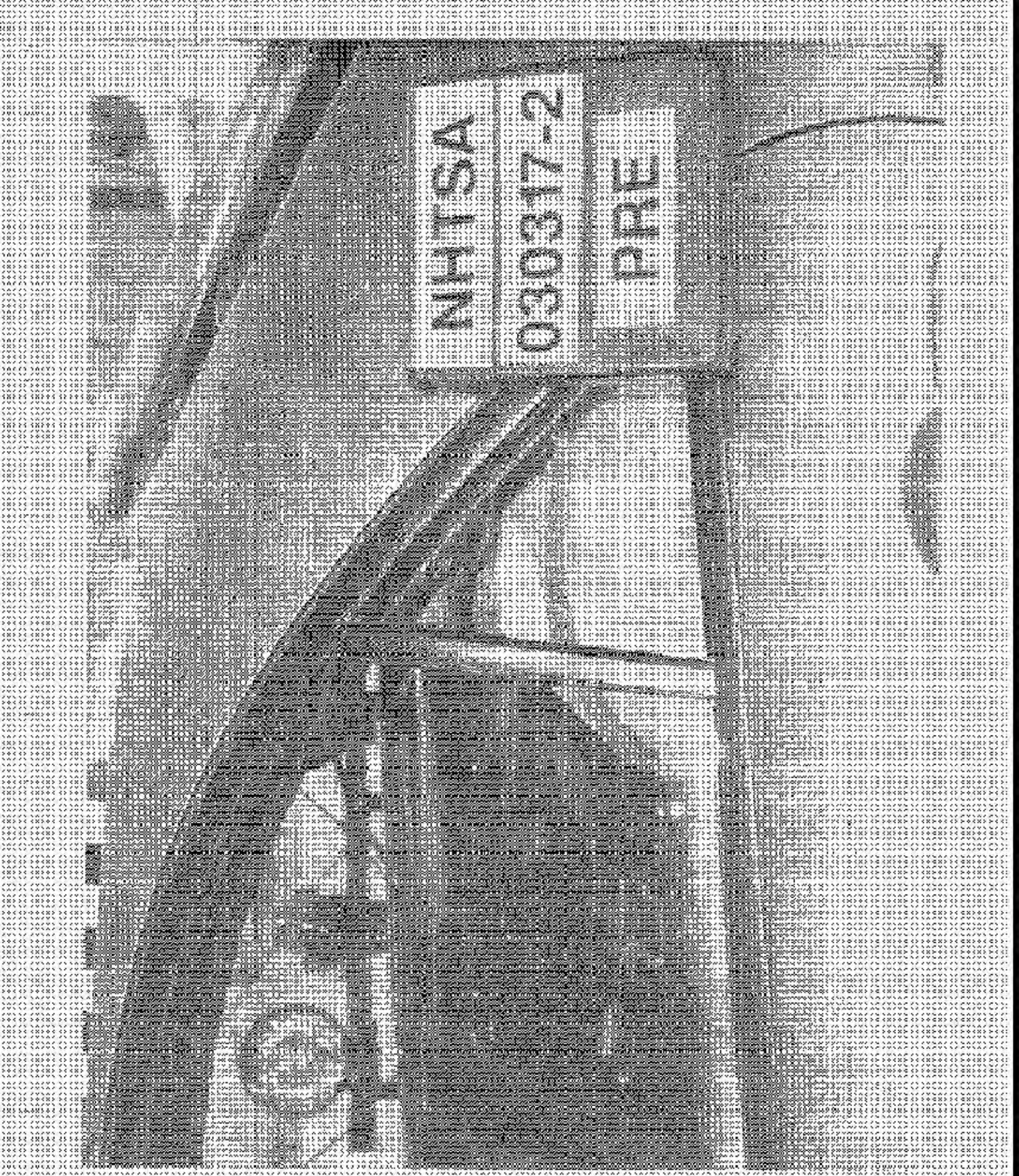
Figure A-25 Pre-Test Left View of Front SID and Door Clearance





Figure A-26: Post-Test Left View of Front SMD and Door Clearance





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Figure A-25. Pre-Test Log View of Roger NID



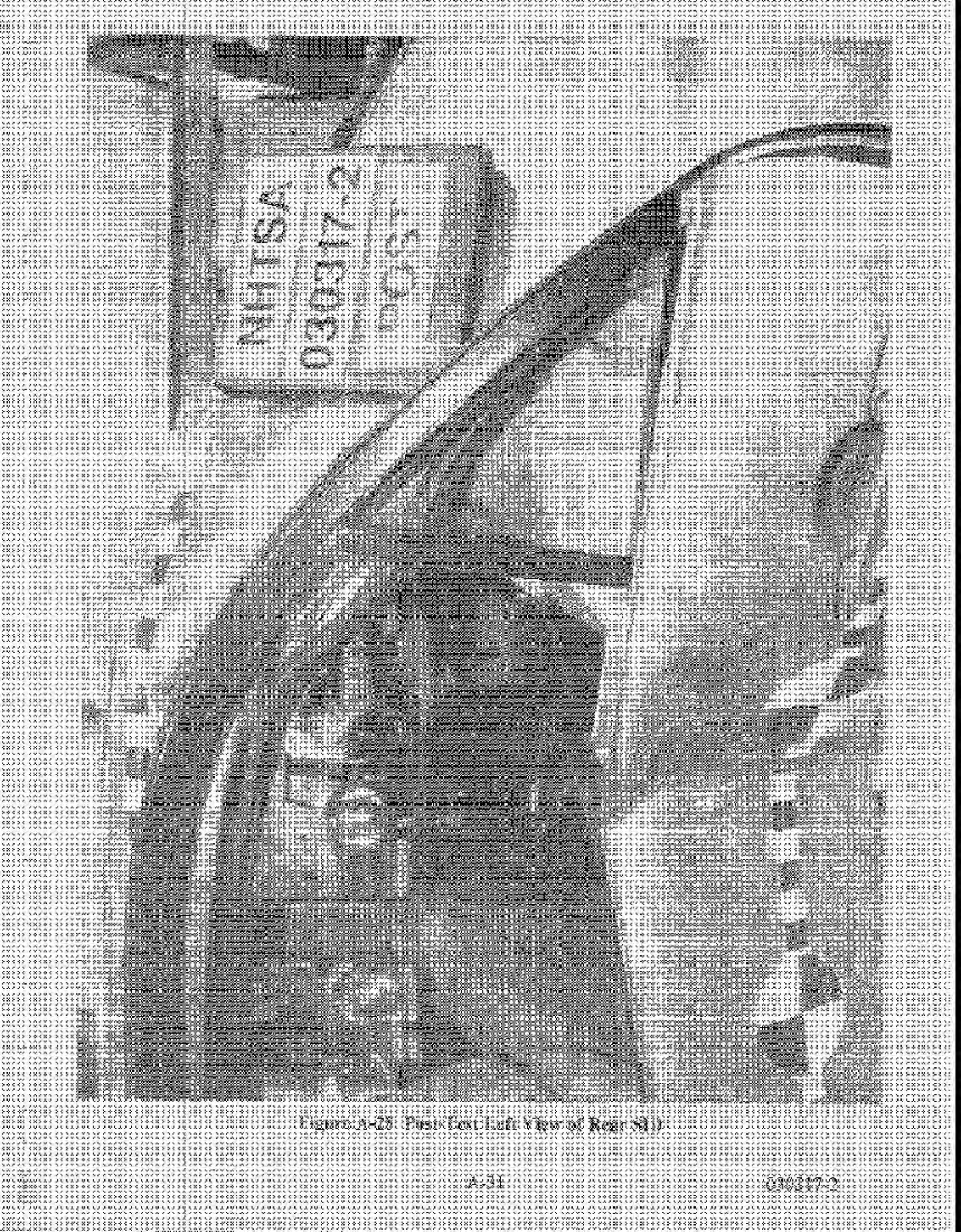


Figure A-25. Push Box Left View of Rear Side



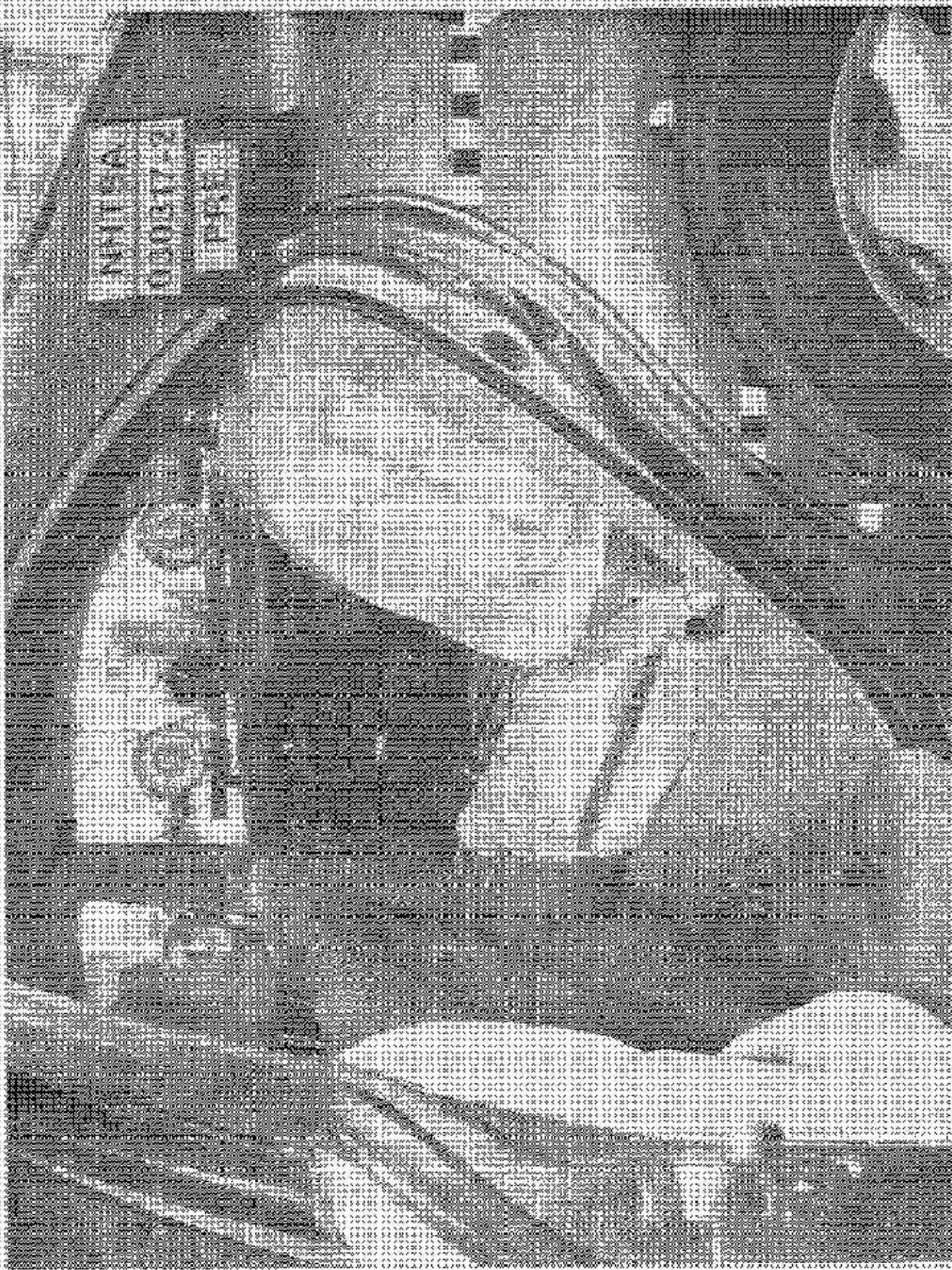


Figure A-29. Pre-Test Lefted Run NIB and Hot Position



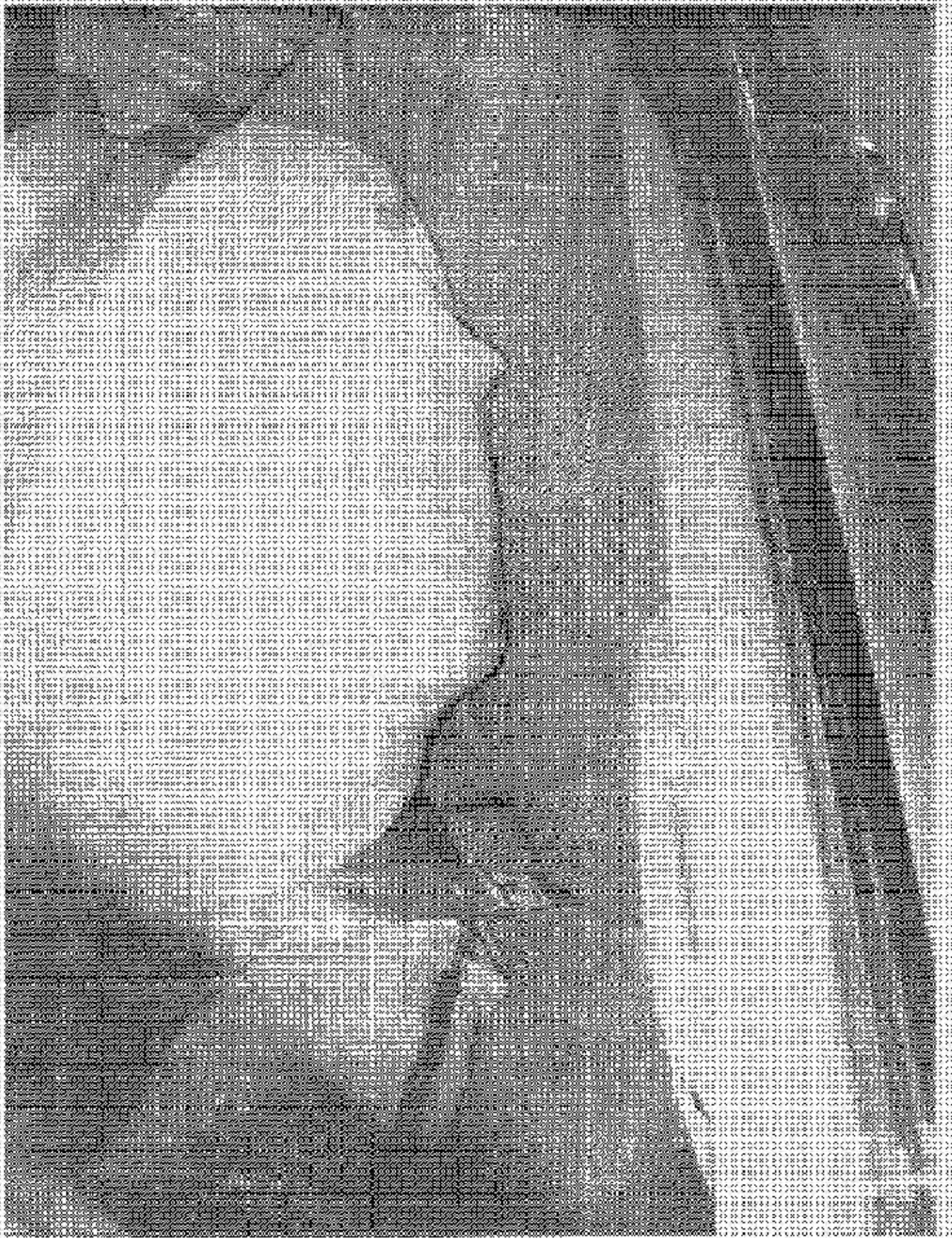


Figure A-30. Pre-Test Left View of Bear 510 and Door Clearance



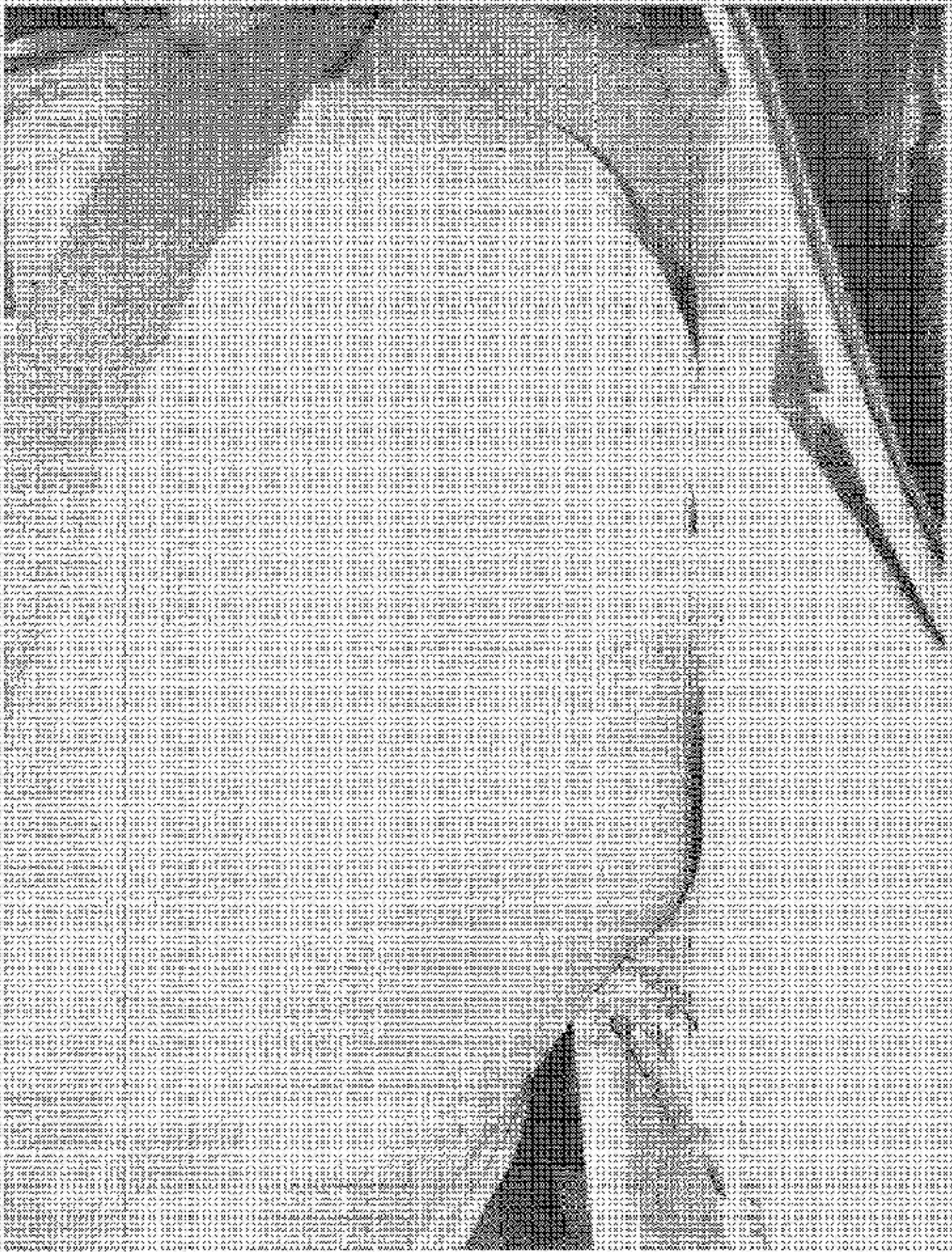


Figure A-31 Post-Ten Inch View of Rear SID and Door Clearance



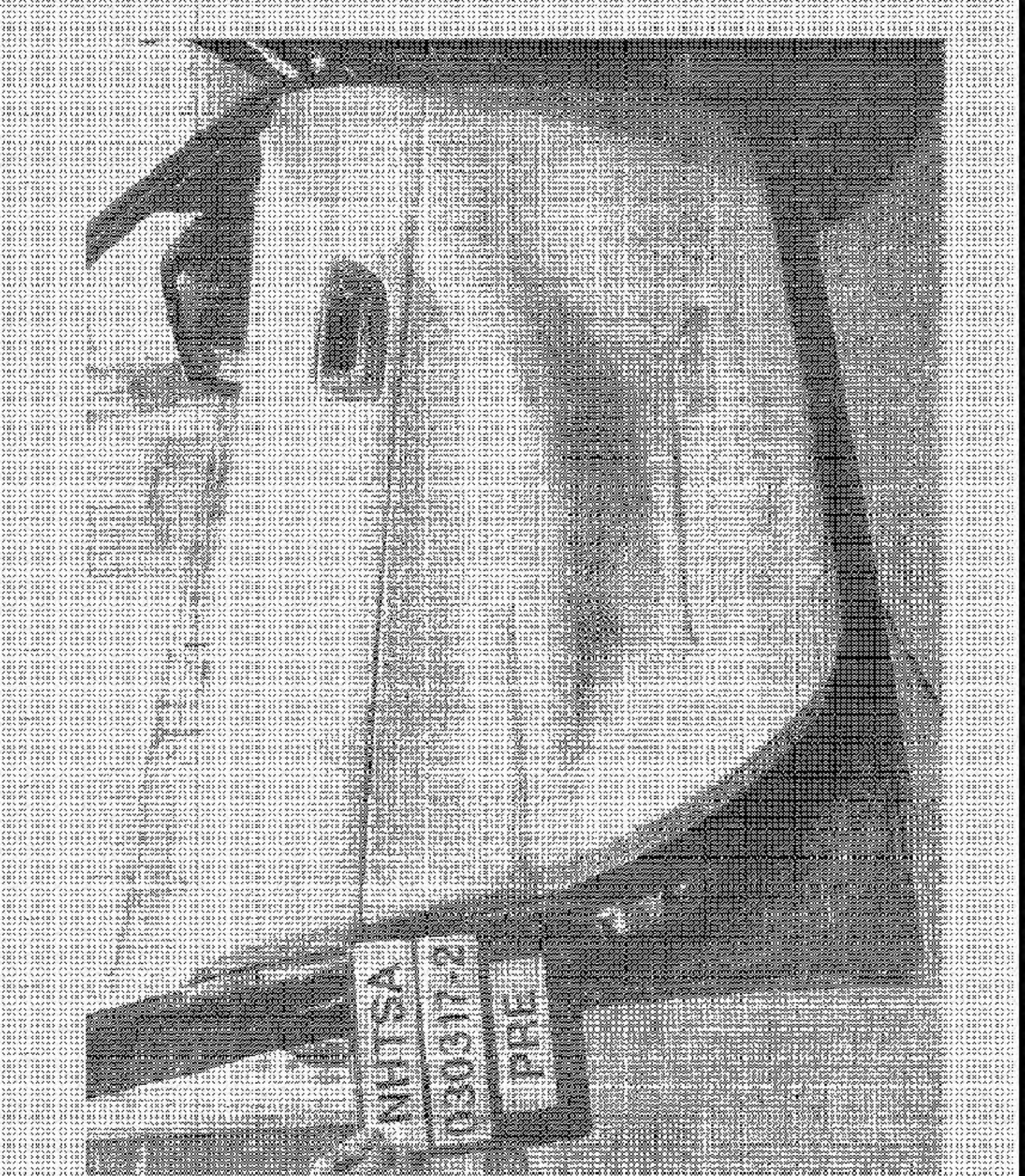


Figure A-32. Front Interior of Front Door.



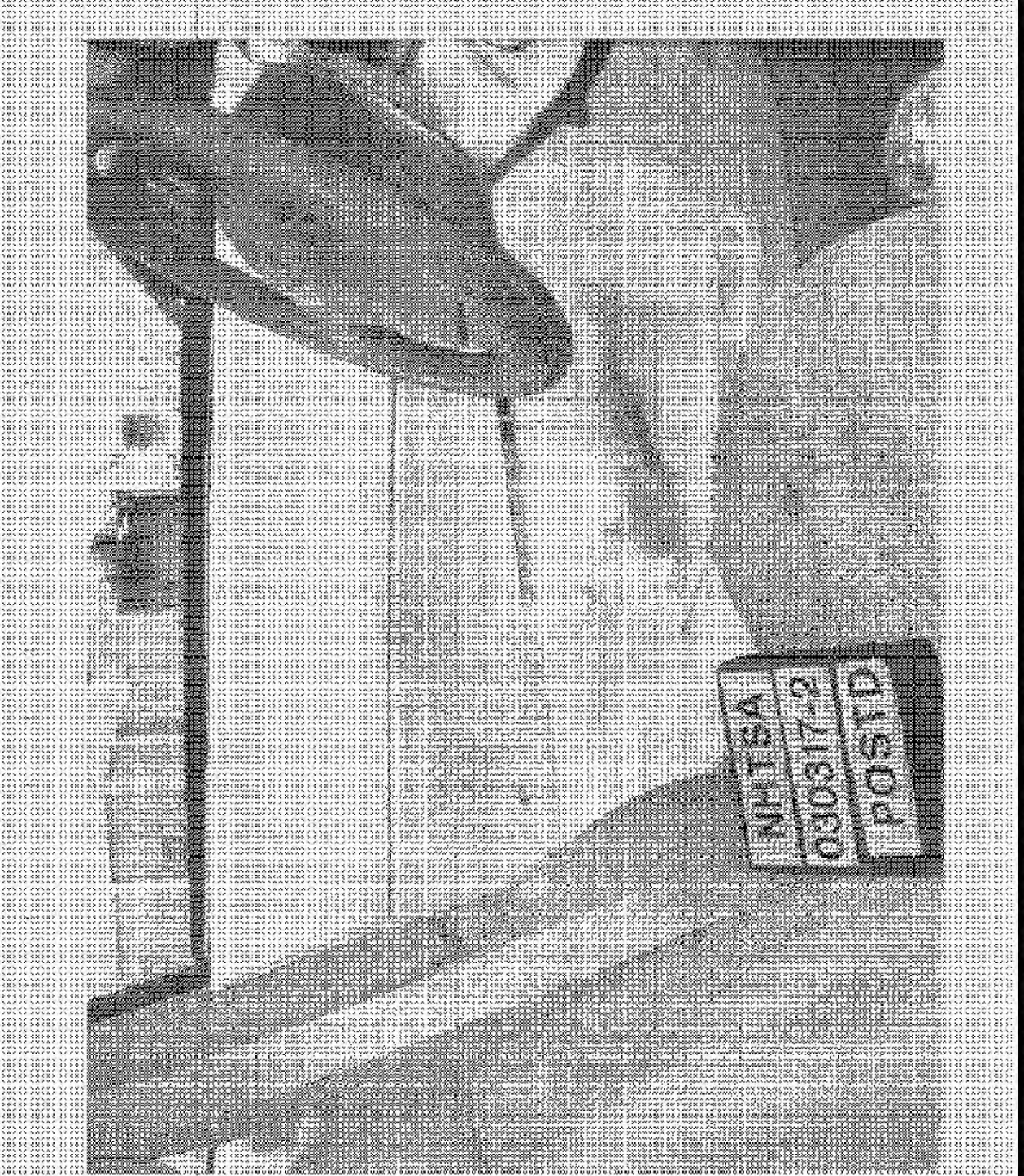


Figure A-35 Post-Test Interior of Blast Door Showing NRE Lamp and Location



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Figure A-34 Post Box from SM Contact - New York





Figure A-35 Post Box From MD Control-Airview 2



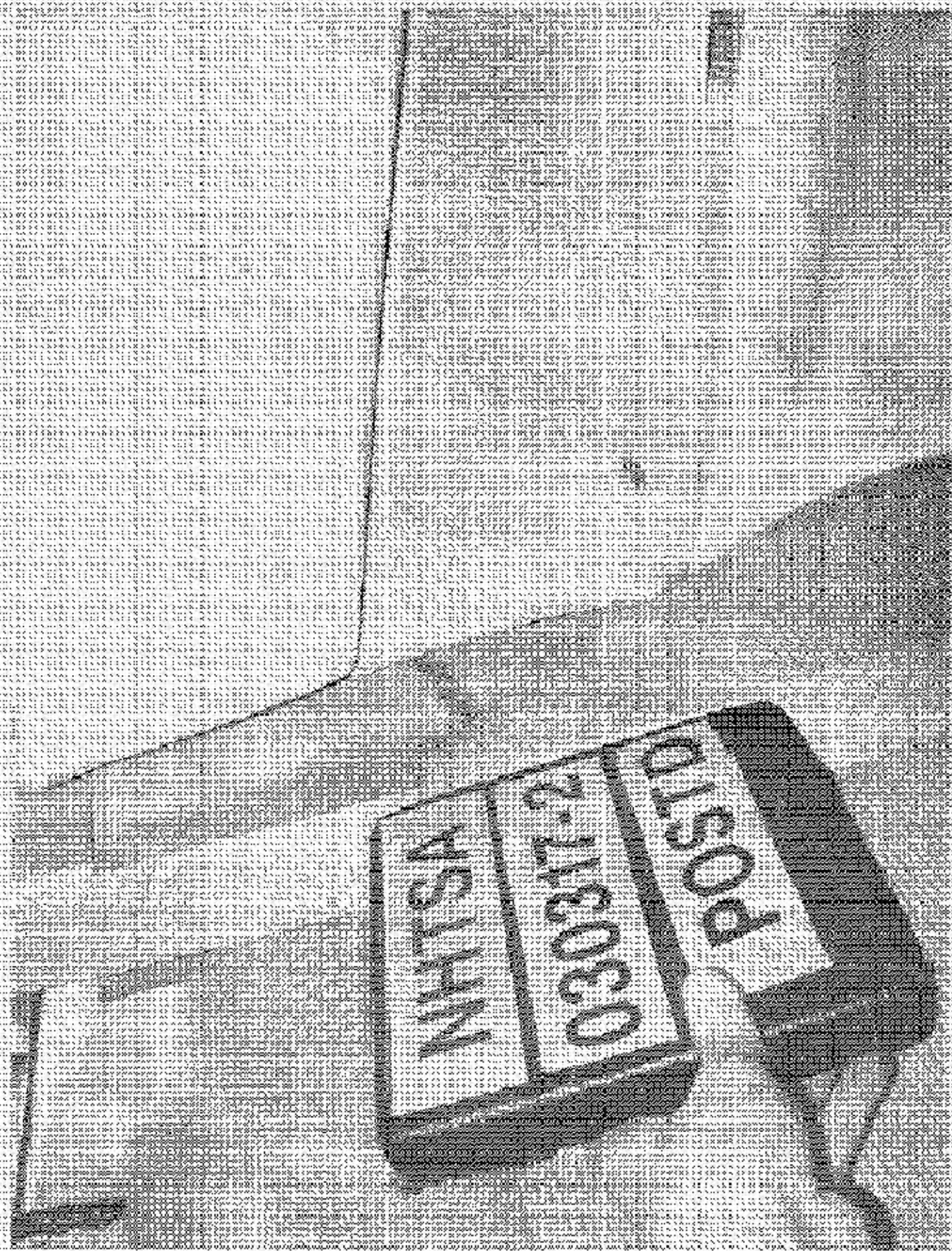


Figure A-36 Post-Test From SD Center-- View 3



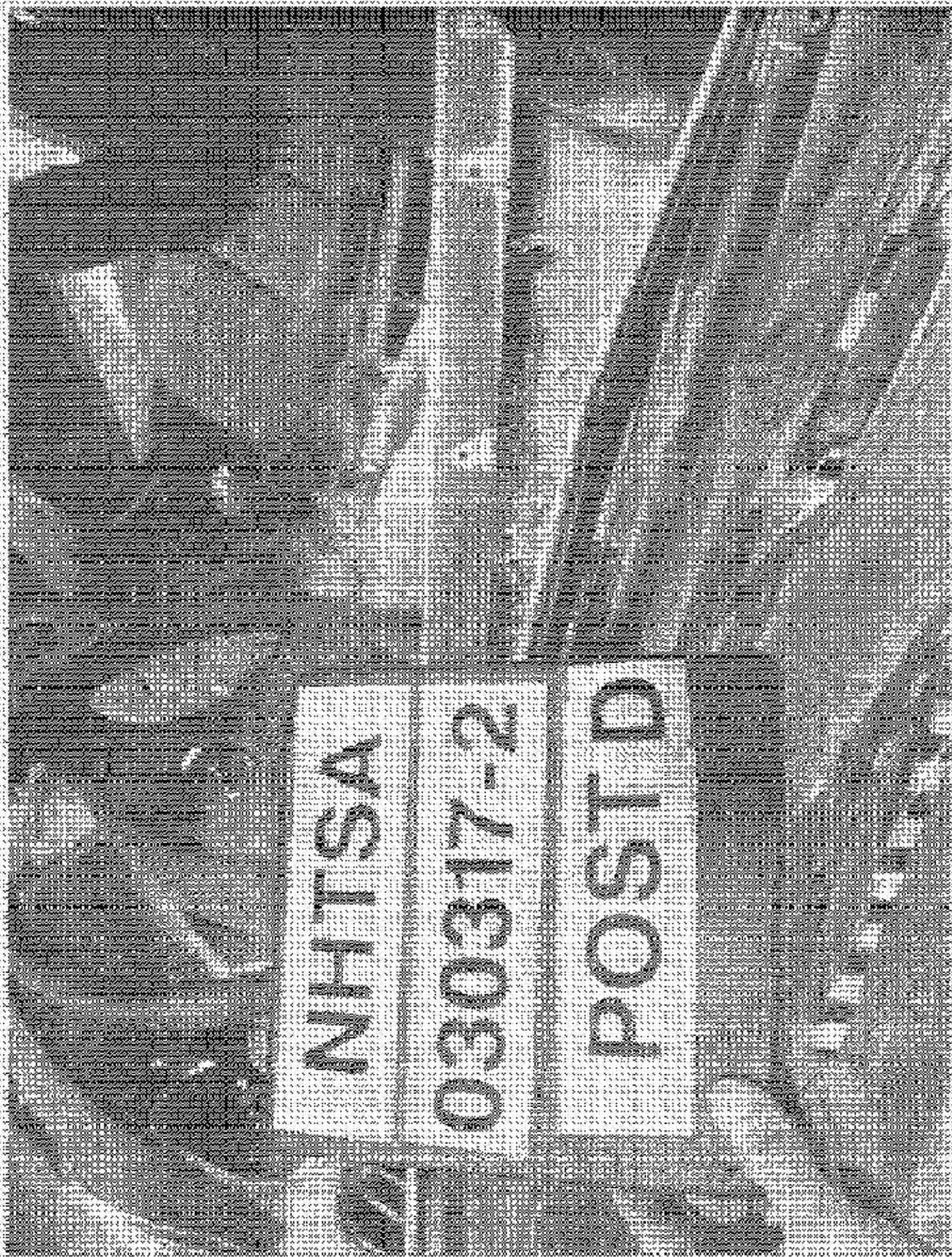


Figure A-37: Post-Fat Front SLD Control - View 4



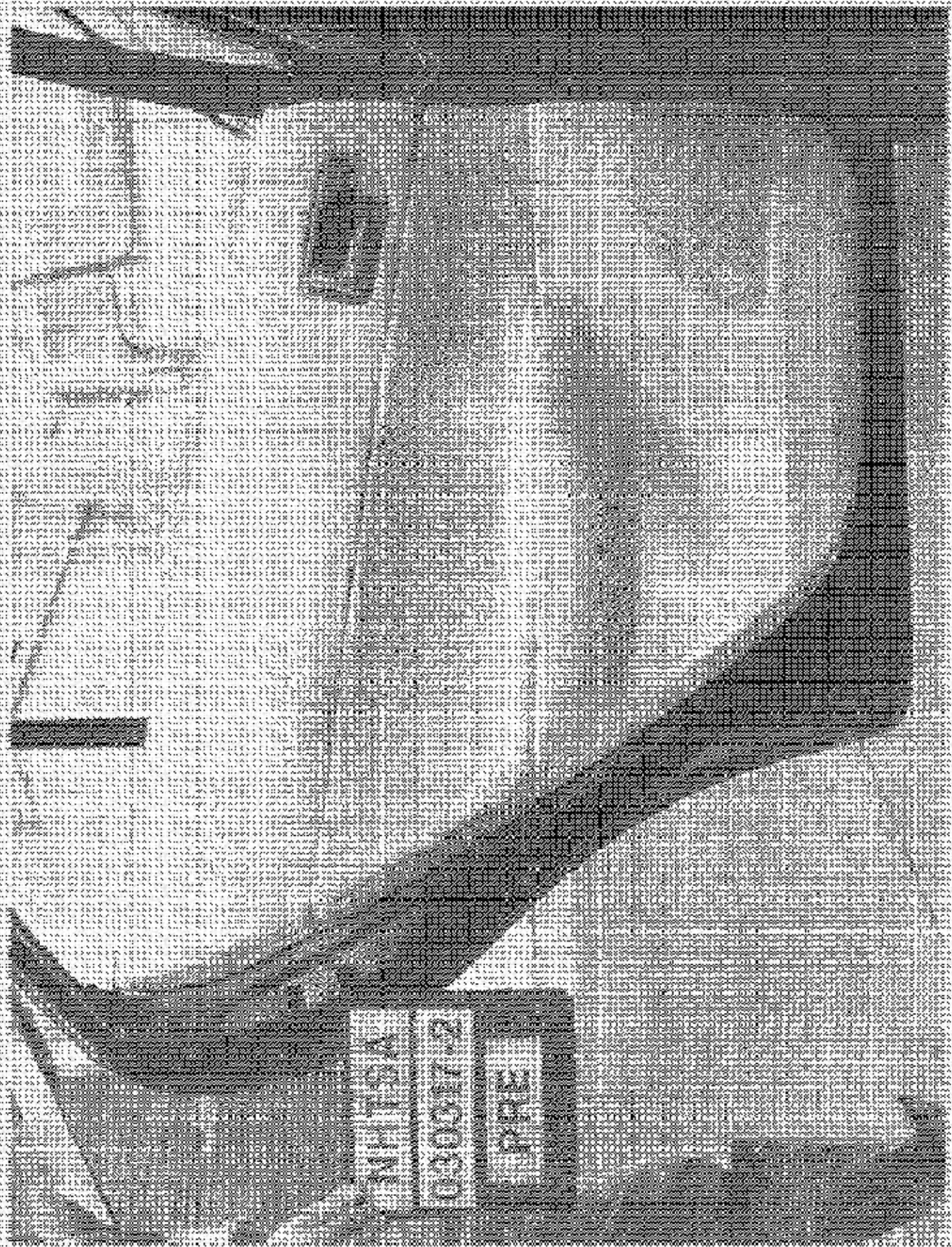


Figure A-38 Pre-Test Interior of Rear Door





Figure A-39. Post-Test Interior of Rear Door Showing SID Impact Location





Figure A-40 Post-Test Rear SIB Contact - View 1



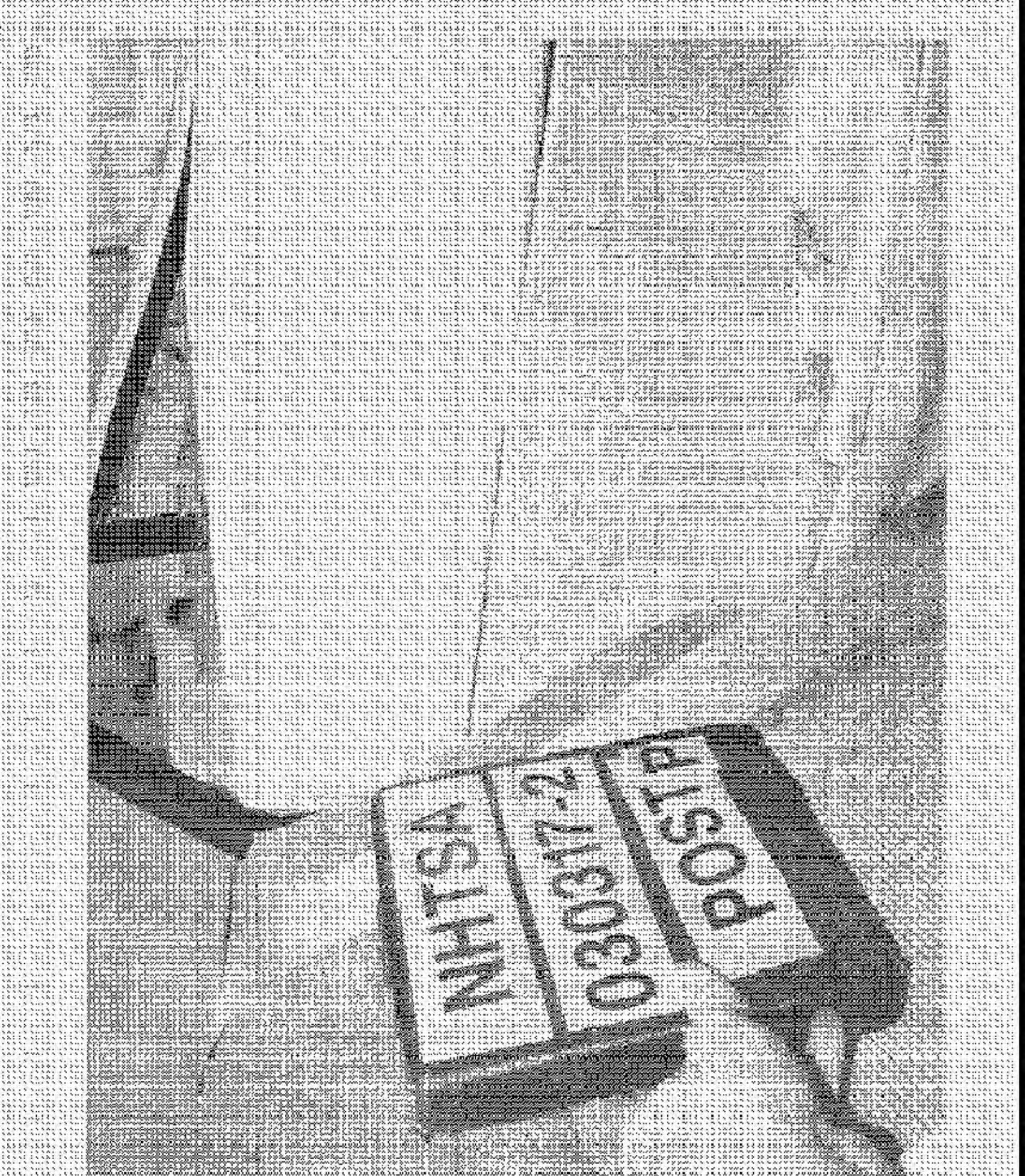


Figure A-41 Post-Test Rear SIB Contact - View 2



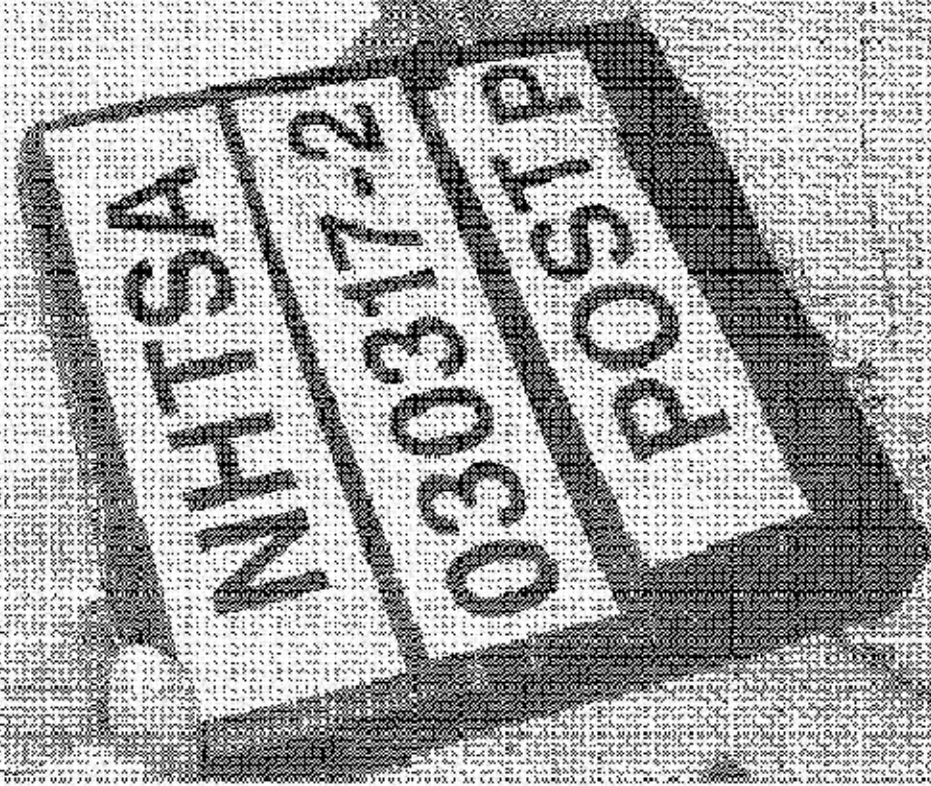


Figure A-42. Post-Test Key (PTK) Contact, View 3



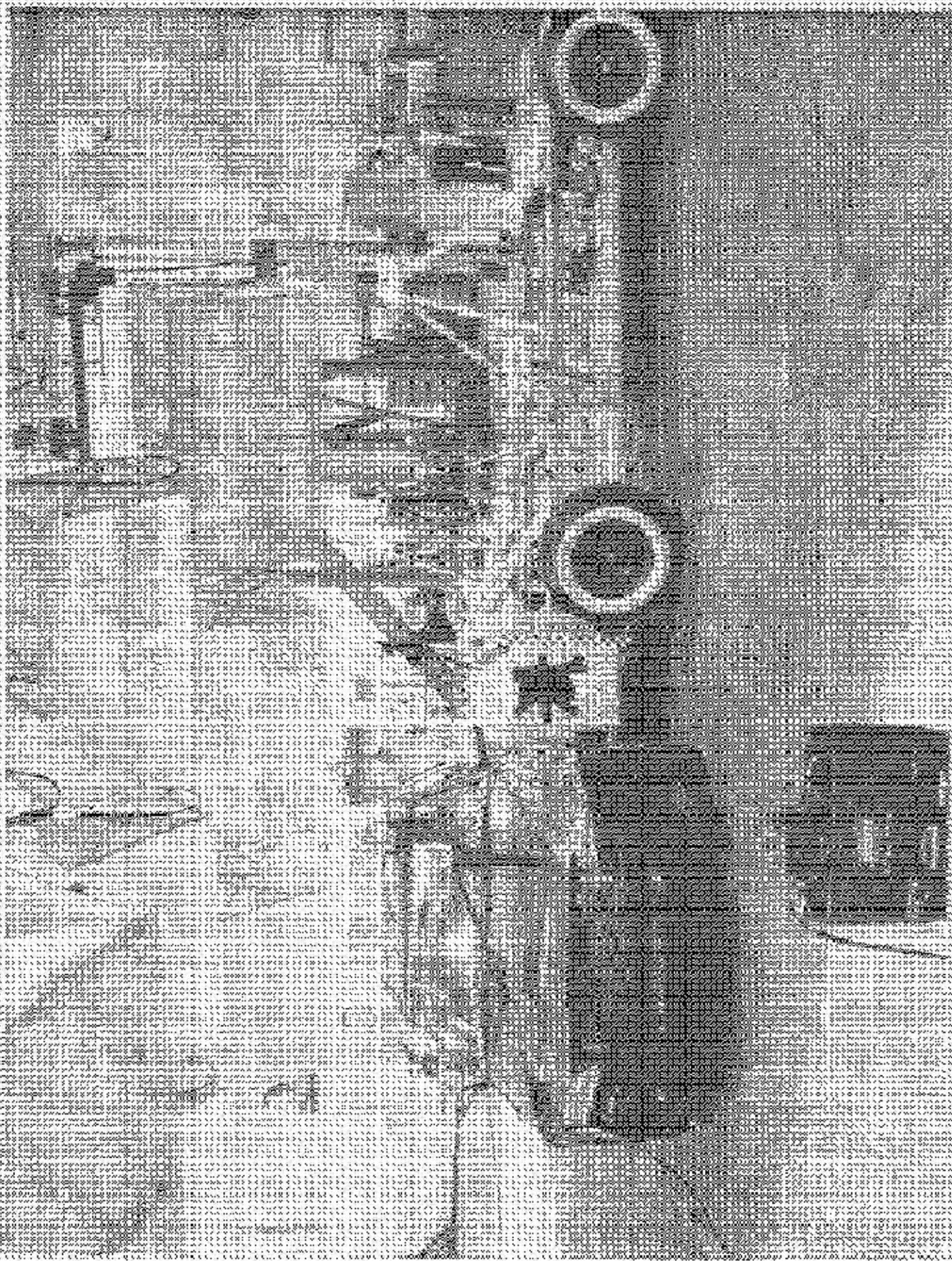


Figure A-43 Pre-Test Left Side View of MDB With Impactor Face in Position





Figure A-44 Pre-Test Primary Impact Point View





Figure A-45 Post-Test Primary Impact Point View



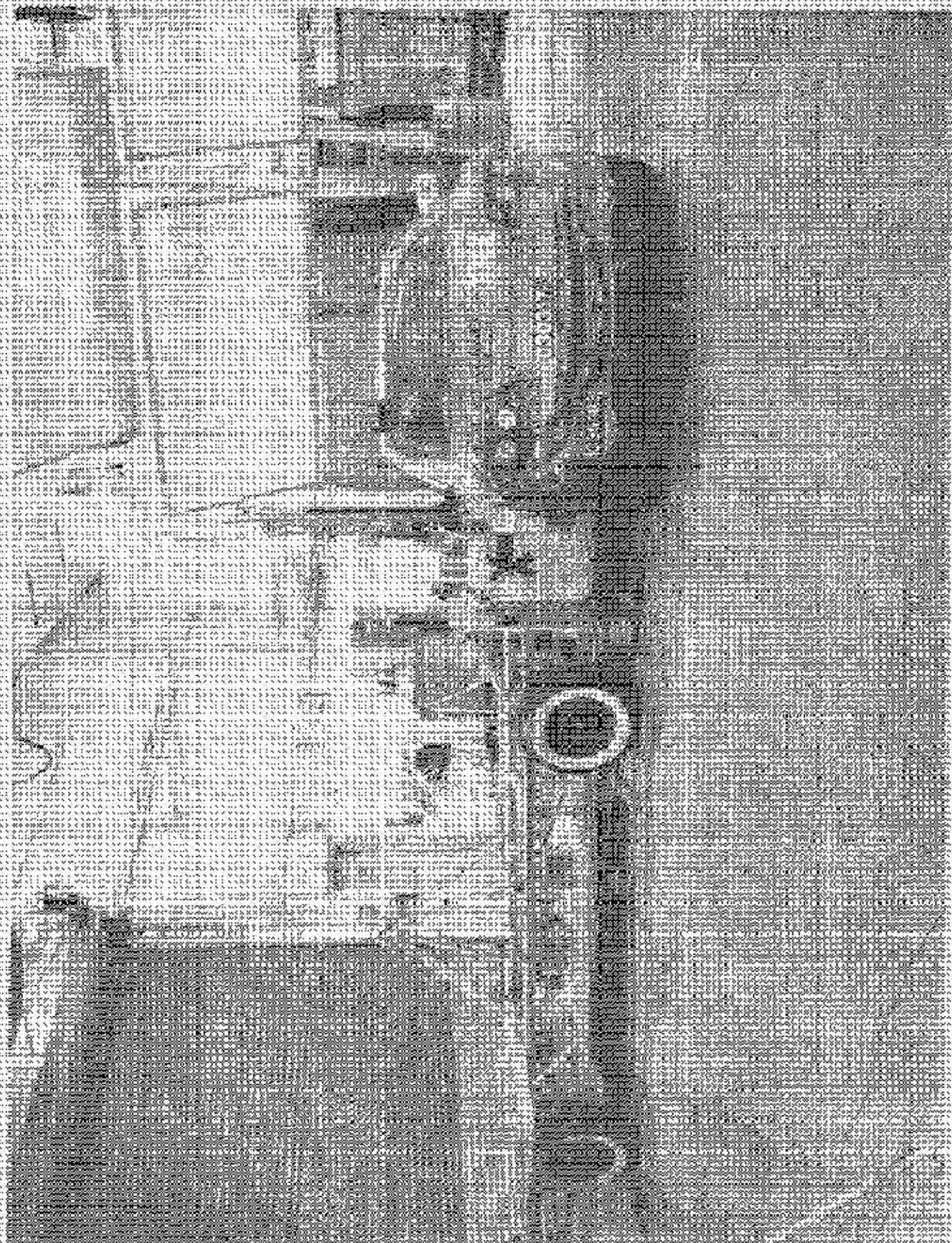


Figure A-40: View of Right Side View of A-40 With Inspector Free in Position



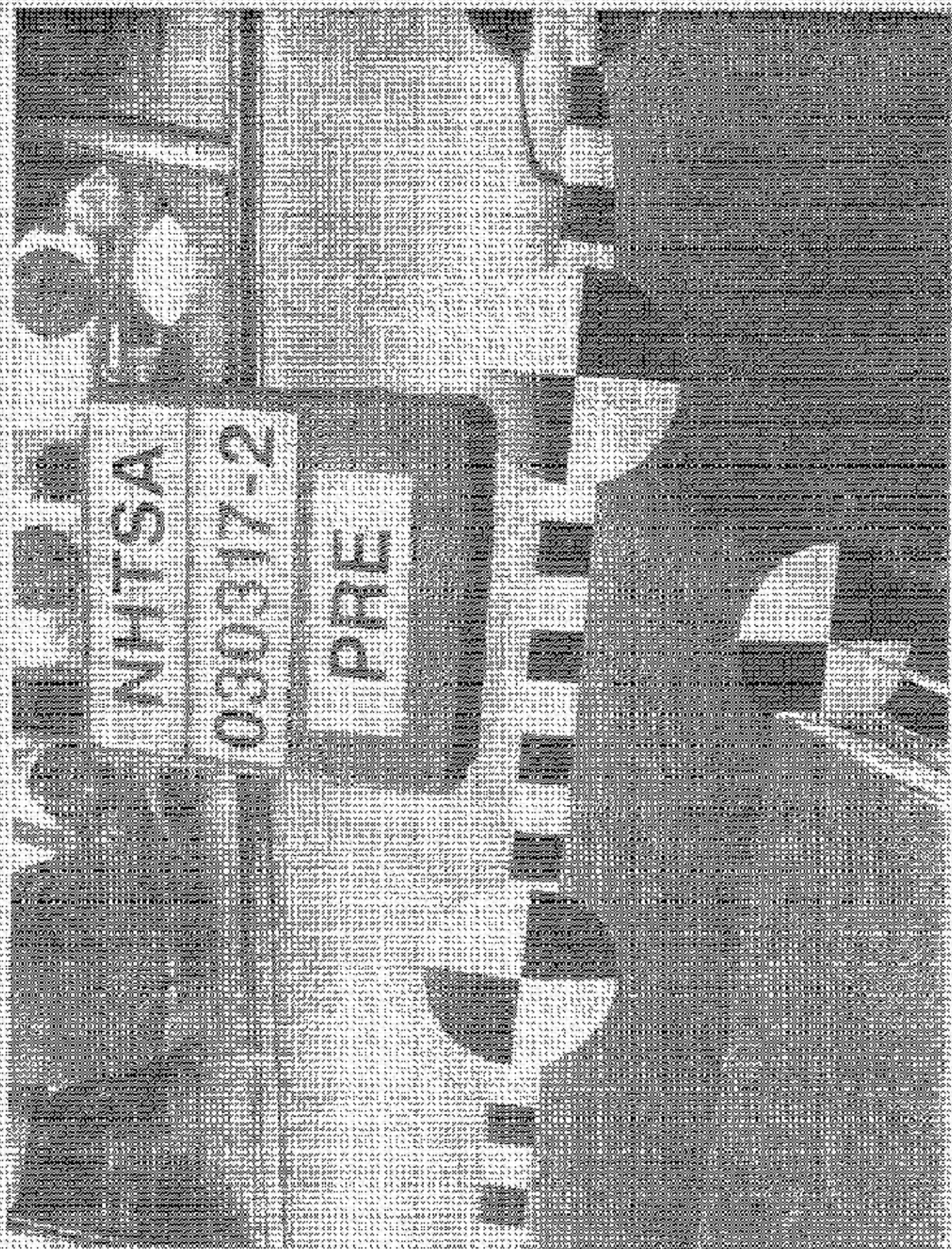


Figure A-47. Pre-Test Secondary Impact Point View





Figure A-48 Post-Fire Secondary Impact Point View



MAZDA AUTO ALLIANCE INTERNATIONAL INC.  
FOR MAZDA MOTOR CORPORATION

MADE IN JAPAN

DATE: 02/03 VIN: JYVFP80C935M23683  
TYPE: PASSENGER  
FRONT ENGINE: 2359LD/1417ONG REAR ENGINE: 1950LB/988OG

THIS VEHICLE CONFORMS TO ALL APPLICABLE FEDERAL MOTOR  
VEHICLE SAFETY, NUMBER AND TITLE PREVENTION STANDARDS  
IN EFFECT ON THE DATE OF MANUFACTURE SHOWN ABOVE.

VIN: JYVFP80C935M23683

TYPE: PASSENGER



EXPIRATION DATE: 02/03  
VEHICLE TYPE: P  
ENGINE: 2359LD  
TRANSMISSION: 1417ONG  
REAR ENGINE: 1950LB  
VEHICLE TYPE: P  
ENGINE: 2359LD  
TRANSMISSION: 1417ONG  
REAR ENGINE: 1950LB

ZEP

V30501000228

Figure A-42 Pre-Test Vehicle Certification Label View



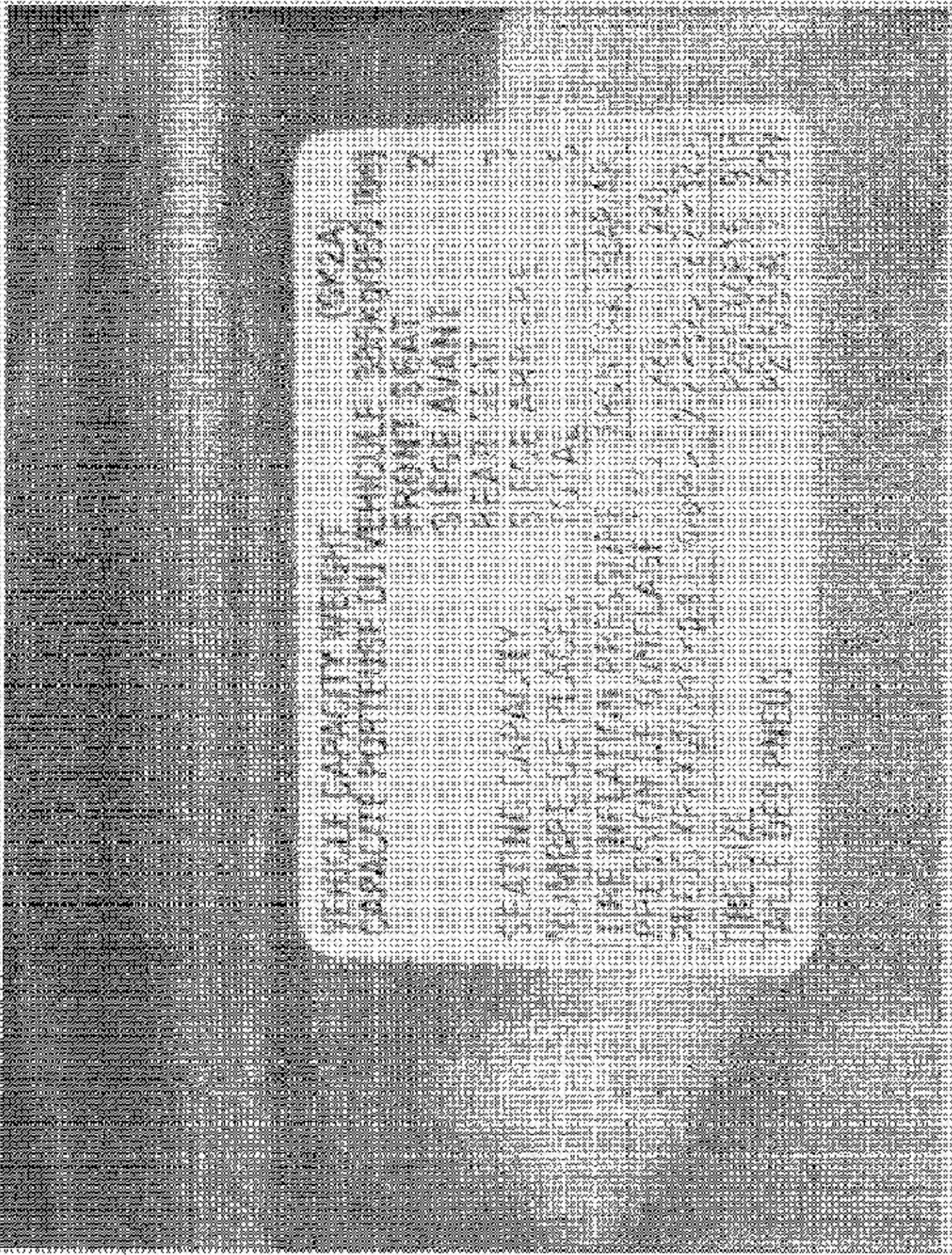
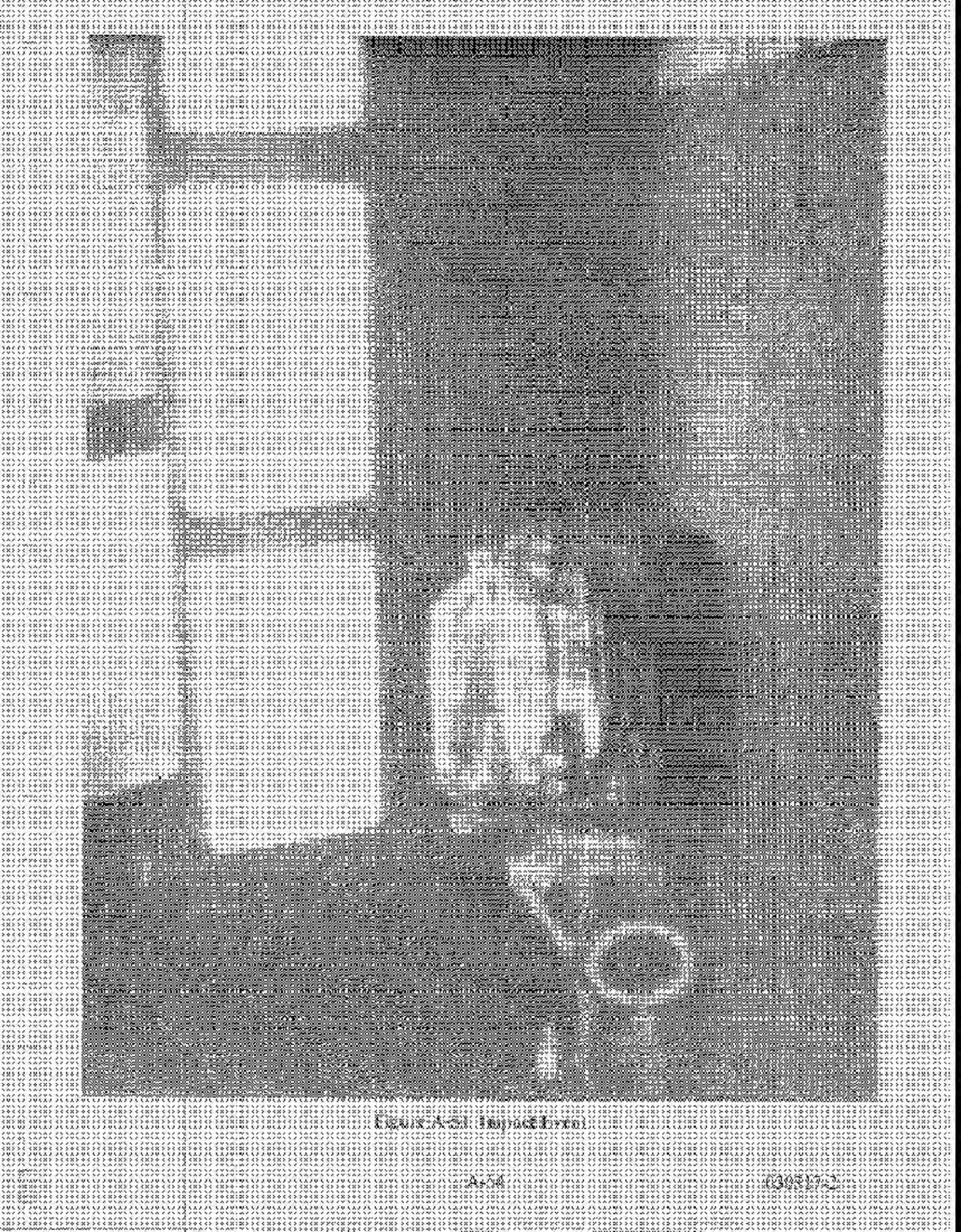


Figure A-50. Pre-Test Vehicle Recommended Fire Pressure Label View





LEWIS A. J. IMPACT FRONT

A. J.

1985-1986





Figure A-52: Front Fuel Cap



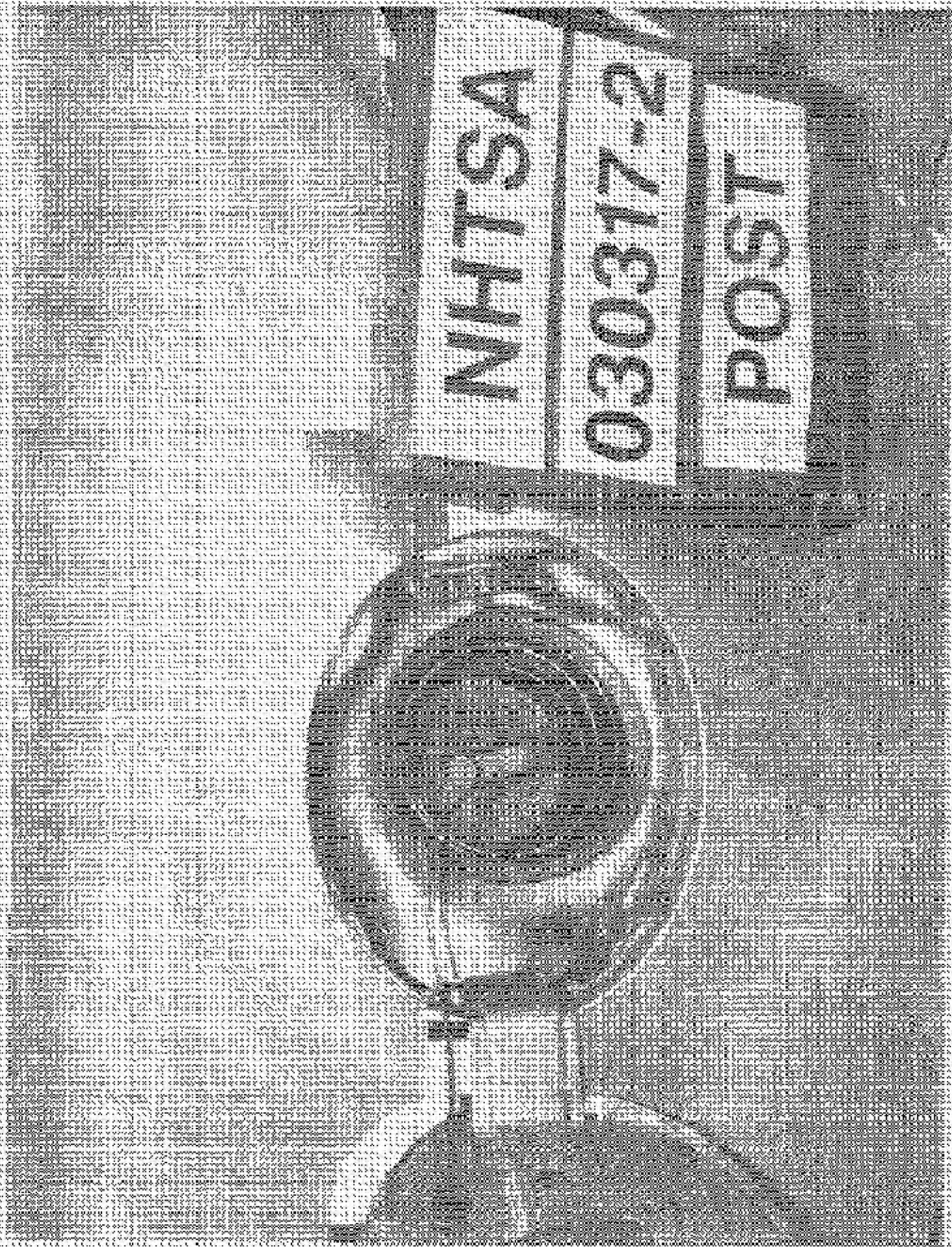


Figure A-53 Post-Test Fuel Cap



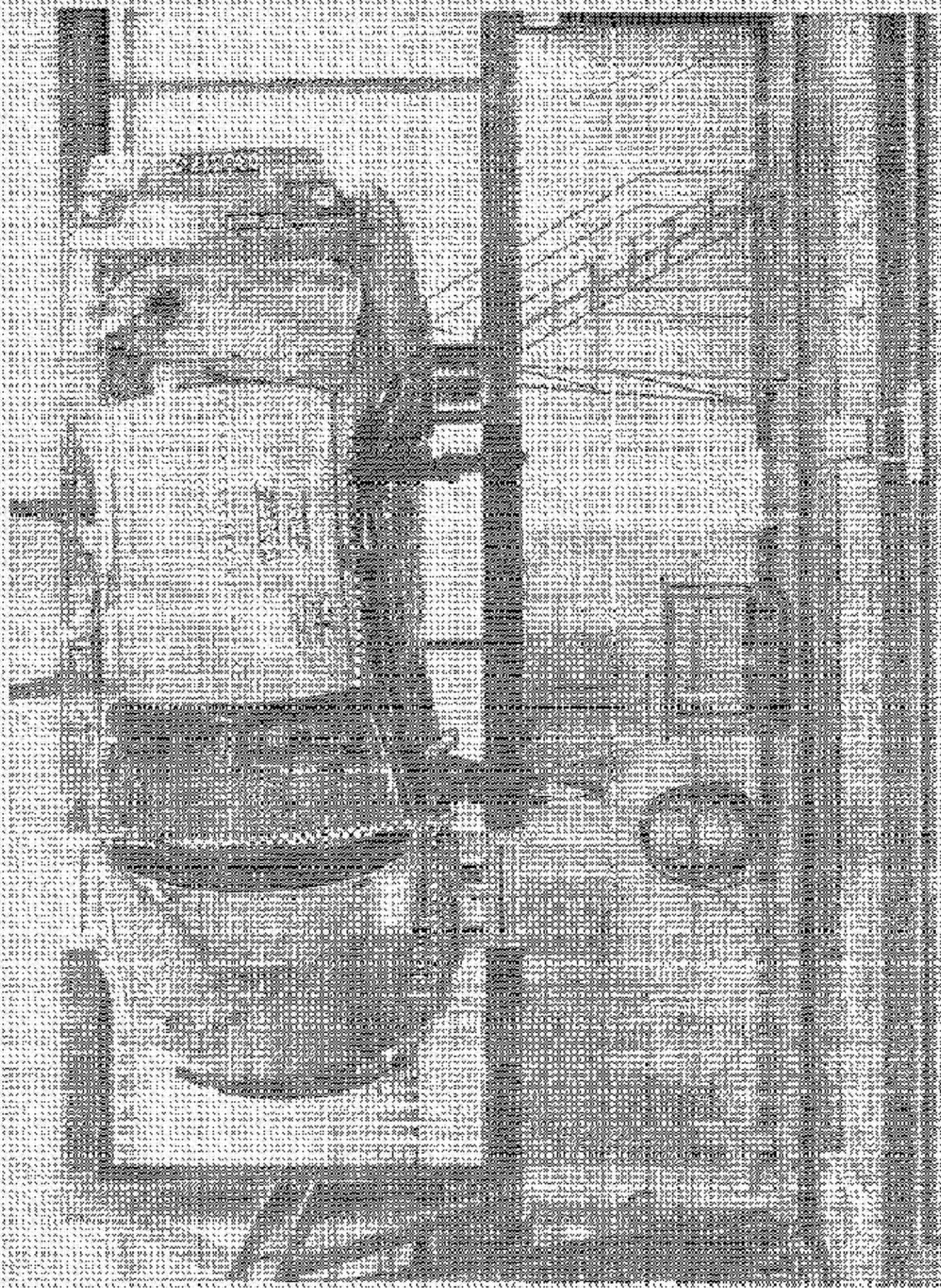


Figure A-54. PLYWOOD JOINT ROOFING SYSTEM AT 20°



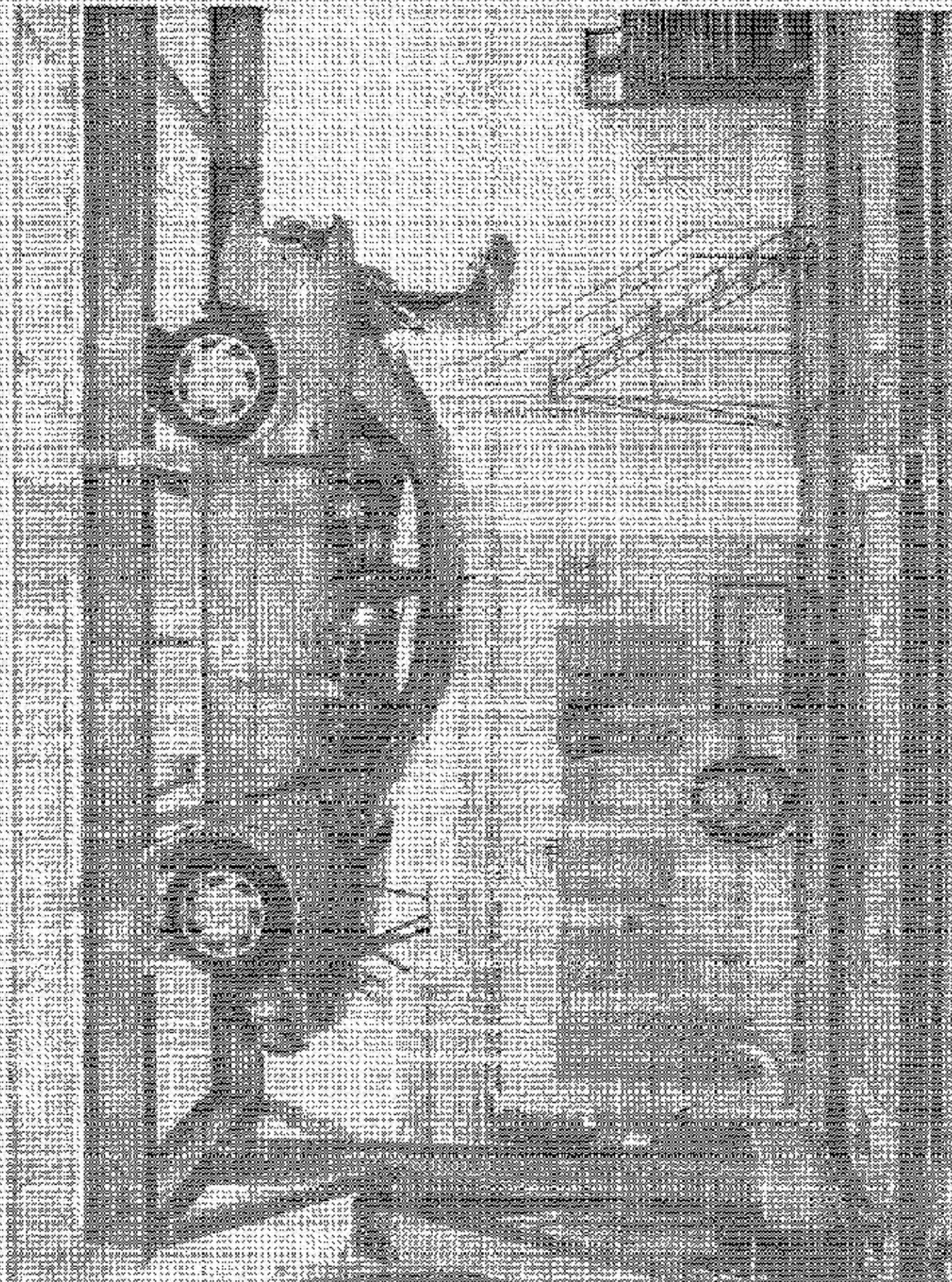


Figure A-55 FMVSS 301 Roll-over View of 180°



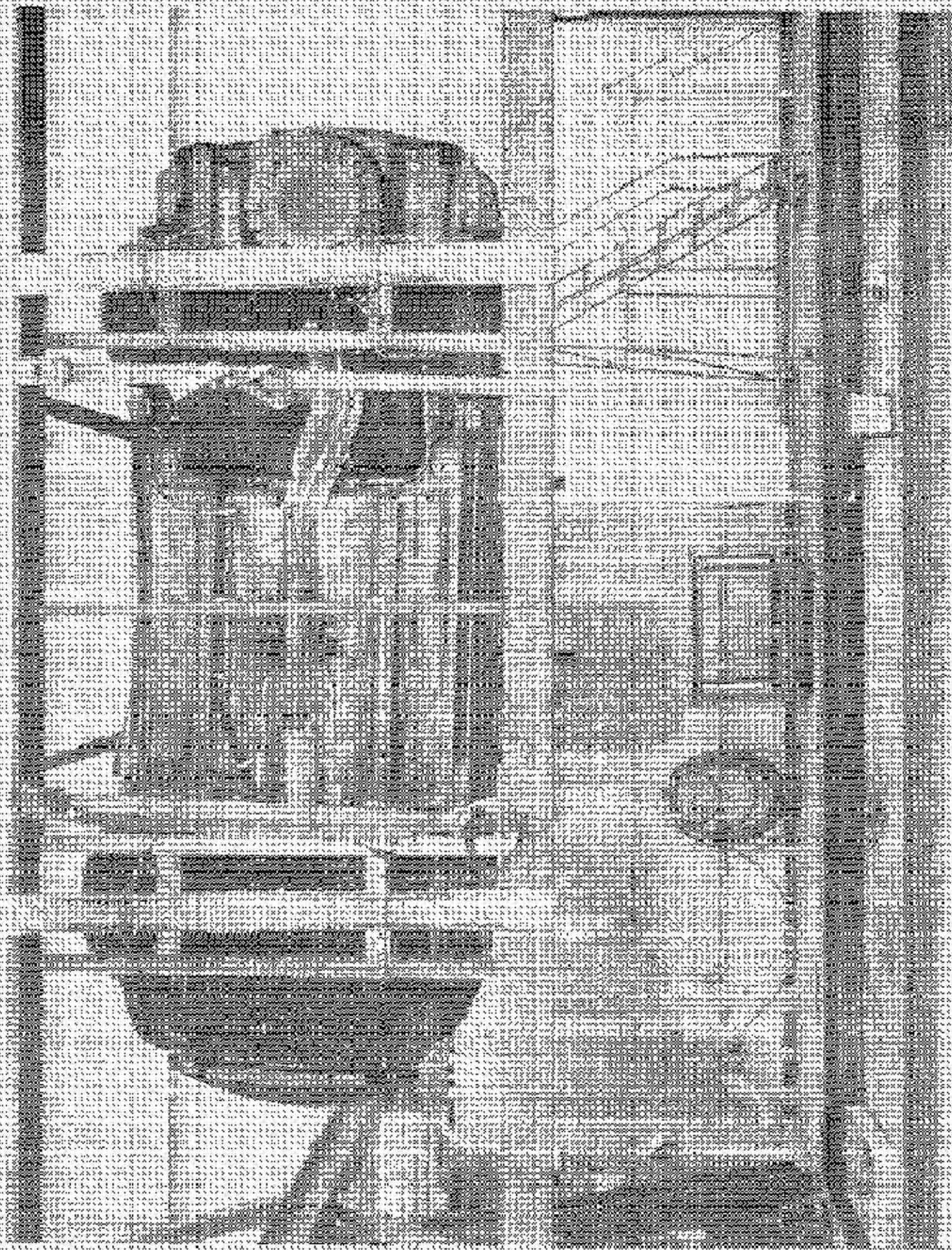


Figure A-56. F303 AS 301 Kooker View at 270°



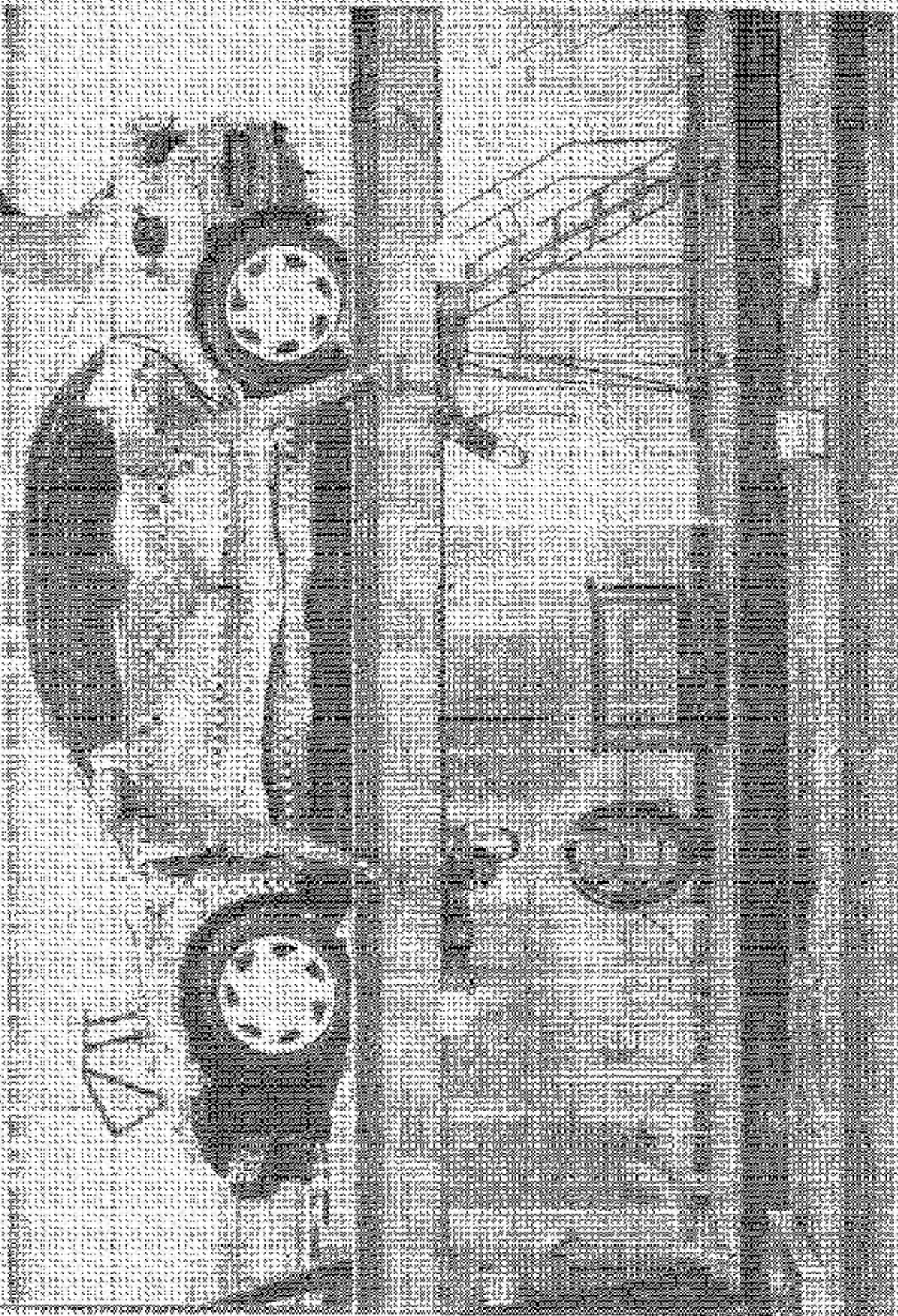


Figure A-57 FMV 98 301 Rollover View at 90°



## Appendix B

### Data Plots

Table of Data Plots

Driver and Passenger Dummy Instrumentation Plots

Acceleration Data - Filter Class 1000

Integration Data - Filter Class 180

Force Data - Filter Class 1000

Moment Data - Filter Class 600

Contact Data - Filter Class 1000

<u>Plot No.</u>	<u>Data Plot Title</u>	<u>Page</u>
1	Driver Head X-Axis Acceleration	B-10
2	Driver Head X-Axis Velocity	B-11
3	Driver Head Y-Axis Acceleration	B-12
4	Driver Head Y-Axis Velocity	B-13
5	Driver Head Z-Axis Acceleration	B-14
6	Driver Head Z-Axis Velocity	B-15
7	Driver Head Resultant Acceleration	B-16
8	Driver Neck X-Axis Shear Force	B-17
9	Driver Neck Y-Axis Shear Force	B-18
10	Driver Neck Z-Axis Axial Force	B-19
11	Driver Neck Moment about X Axis	B-20
12	Driver Neck Moment about Y Axis	B-21
13	Driver Neck Moment about Z Axis	B-22
14	Driver Neck Occipital Condyle Moment about X Axis	B-23
15	Driver Upper Rib Y-Axis Acceleration	B-24
16	Driver Upper Rib Y-Axis Velocity	B-25
17	Driver Lower Rib Y-Axis Acceleration	B-26
18	Driver Lower Rib Y-Axis Velocity	B-27
19	Driver Lower Spine Y-Axis Acceleration	B-28
20	Driver Lower Spine Y-Axis Velocity	B-29
21	Driver Pelvis Y-Axis Acceleration	B-30
22	Driver Pelvis Y-Axis Velocity	B-31
23	Left Rear Passenger Head X-Axis Acceleration	B-32
24	Left Rear Passenger Head X-Axis Velocity	B-33
25	Left Rear Passenger Head Y-Axis Acceleration	B-34
26	Left Rear Passenger Head Y-Axis Velocity	B-35
27	Left Rear Passenger Head Z-Axis Acceleration	B-36



Table of Data Plots (Continued)

Driver and Passenger Dummy Instrumentation Plots (Continued)

Acceleration Data - Filter Class 1000

Integration Data - Filter Class 180

Force Data - Filter Class 1000

Moment Data - Filter Class 600

Contact Data - Filter Class 1000

<u>Plot No.</u>	<u>Data Plot Title</u>	<u>Page</u>
28	Left Rear Passenger Head Z-Axis Velocity	B-37
29	Left Rear Passenger Head Resultant Acceleration	B-38
30	Left Rear Passenger Neck X-Axis Shear Force	B-39
31	Left Rear Passenger Neck Y-Axis Shear Force	B-40
32	Left Rear Passenger Neck Z-Axis Axial Force	B-41
33	Left Rear Passenger Neck Moment about X Axis	B-42
34	Left Rear Passenger Neck Moment about Y Axis	B-43
35	Left Rear Passenger Neck Moment about Z Axis	B-44
36	Left Rear Passenger Neck Occipital Condyle Moment about X Axis	B-45
37	Left Rear Passenger Upper Rib Y-Axis Acceleration	B-46
38	Left Rear Passenger Upper Rib Y-Axis Velocity	B-47
39	Left Rear Passenger Lower Rib Y-Axis Acceleration	B-48
40	Left Rear Passenger Lower Rib Y-Axis Velocity	B-49
41	Left Rear Passenger Lower Spine Y-Axis Acceleration	B-50
42	Left Rear Passenger Lower Spine Y-Axis Velocity	B-51
43	Left Rear Passenger Pelvis Y-Axis Acceleration	B-52
44	Left Rear Passenger Pelvis Y-Axis Velocity	B-53

Driver and Passenger Dummy Instrumentation Plots

Acceleration Data - Filter Class 1000 - Redundant

Integration Data - Filter Class 180 - Redundant

<u>Plot No.</u>	<u>Data Plot Title</u>	<u>Page</u>
45	Driver Head X-Axis Redundant Acceleration	B-55
46	Driver Head X-Axis Redundant Velocity	B-56
47	Driver Head Y-Axis Redundant Acceleration	B-57
48	Driver Head Y-Axis Redundant Velocity	B-58

Table of Data Plots (Continued)

Driver and Passenger Dummy Instrumentation Plots (Continued)

Acceleration Data - Filter Class 1000 - Redundant

Integration Data - Filter Class 180 - Redundant

<u>Plot No.</u>	<u>Data Plot Title</u>	<u>Page</u>
49	Driver Head Z-Axis Redundant Acceleration	B-59
50	Driver Head Z-Axis Redundant Velocity	B-60
51	Driver Upper Rib Y-Axis Redundant Acceleration	B-61
52	Driver Upper Rib Y-Axis Redundant Velocity	B-62
53	Driver Lower Rib Y-Axis Redundant Acceleration	B-63
54	Driver Lower Rib Y-Axis Redundant Velocity	B-64
55	Driver Lower Spine Y-Axis Redundant Acceleration	B-65
56	Driver Lower Spine Y-Axis Redundant Velocity	B-66
57	Driver Pelvis Y-Axis Redundant Acceleration	B-67
58	Driver Pelvis Y-Axis Redundant Velocity	B-68
59	Left Rear Passenger Head X-Axis Redundant Acceleration	B-69
60	Left Rear Passenger Head X-Axis Redundant Velocity	B-70
61	Left Rear Passenger Head Y-Axis Redundant Acceleration	B-71
62	Left Rear Passenger Head Y-Axis Redundant Velocity	B-72
63	Left Rear Passenger Head Z-Axis Redundant Acceleration	B-73
64	Left Rear Passenger Head Z-Axis Redundant Velocity	B-74
65	Left Rear Passenger Upper Rib Y-Axis Redundant Acceleration	B-75
66	Left Rear Passenger Upper Rib Y-Axis Redundant Velocity	B-76
67	Left Rear Passenger Lower Rib Y-Axis Redundant Acceleration	B-77
68	Left Rear Passenger Lower Rib Y-Axis Redundant Velocity	B-78
69	Left Rear Passenger Lower Spine Y-Axis Redundant Acceleration	B-79
70	Left Rear Passenger Lower Spine Y-Axis Redundant Velocity	B-80
71	Left Rear Passenger Pelvis Y-Axis Redundant Acceleration	B-81
72	Left Rear Passenger Pelvis Y-Axis Redundant Velocity	B-82



Table of Data Plots (Continued)  
 Test Vehicle Instrumentation Plots  
 Acceleration Data - Filter Class 60  
 Integration Data - Filter Class 180

<u>Plot No.</u>	<u>Data Plot Title</u>	<u>Page</u>
73	Right Side Sill at Front Seat X-Axis Acceleration	B-84
74	Right Side Sill at Front Seat X-Axis Velocity	B-85
75	Right Side Sill at Front Seat Y-Axis Acceleration	B-86
76	Right Side Sill at Front Seat Y-Axis Velocity	B-87
77	Right Side Sill at Front Seat Z-Axis Acceleration	B-88
78	Right Side Sill at Front Seat Z-Axis Velocity	B-89
79	Right Side Sill at Front Seat Resultant Acceleration	B-90
80	Right Side Sill at Rear Seat X-Axis Acceleration	B-91
81	Right Side Sill at Rear Seat X-Axis Velocity	B-92
82	Right Side Sill at Rear Seat Y-Axis Acceleration	B-93
83	Right Side Sill at Rear Seat Y-Axis Velocity	B-94
84	Right Side Sill at Rear Seat Z-Axis Acceleration	B-95
85	Right Side Sill at Rear Seat Z-Axis Velocity	B-96
86	Right Side Sill at Rear Seat Resultant Acceleration	B-97
87	Rear Floorpan Above Axle X-Axis Acceleration	B-98
88	Rear Floorpan Above Axle X-Axis Velocity	B-99
89	Rear Floorpan Above Axle Y-Axis Acceleration	B-100
90	Rear Floorpan Above Axle Y-Axis Velocity	B-101
91	Rear Floorpan Above Axle Z-Axis Acceleration	B-102
92	Rear Floorpan Above Axle Z-Axis Velocity	B-103
93	Rear Floorpan Above Axle Resultant Acceleration	B-104
94	Left Side Sill at Front Seat Y-Axis Acceleration	B-105
95	Left Side Sill at Front Seat Y-Axis Velocity	B-106
96	Left Side Sill at Front Seat Y-Axis Displacement	B-107
97	Left Side Sill at Rear Seat Y-Axis Acceleration	B-108
98	Left Side Sill at Rear Seat Y-Axis Velocity	B-109
99	Left Side Sill at Rear Seat Y-Axis Displacement	B-110
100	Left Front Door on Centerline Y-Axis Acceleration	B-111
101	Left Front Door on Centerline Y-Axis Velocity	B-112

Table of Data Plots (Continued)  
Test Vehicle Instrumentation Plots (Continued)  
Acceleration Data - Filter Class 60  
Integration Data - Filter Class 180

<u>Plot No.</u>	<u>Data Plot Title</u>	<u>Page</u>
102	Left Front Door on Centerline Y-Axis Displacement	B-113
103	Right Rear Occupant Compartment Y Axis Acceleration	B-114
104	Right Rear Occupant Compartment Y Axis Velocity	B-115
105	Right Rear Occupant Compartment Y Axis Displacement	B-116
106	Left Front Door Mid-Rear Y-Axis Acceleration	B-117
107	Left Front Door Mid-Rear Y-Axis Velocity	B-118
108	Left Front Door Mid-Rear Y-Axis Displacement	B-119
109	Left Front Door Upper Centerline Y-Axis Acceleration	B-120
110	Left Front Door Upper Centerline Y-Axis Velocity	B-121
111	Left Front Door Upper Centerline Y-Axis Displacement	B-122
112	Left Rear Door Mid-Rear Y-Axis Acceleration	B-123
113	Left Rear Door Mid-Rear Y-Axis Velocity	B-124
114	Left Rear Door Mid-Rear Y-Axis Displacement	B-125
115	Left Rear Door Upper Centerline Y-Axis Acceleration	B-126
116	Left Rear Door Upper Centerline Y-Axis Velocity	B-127
117	Left Rear Door Upper Centerline Y-Axis Displacement	B-128
118	Left Lower A-Post Y-Axis Acceleration	B-129
119	Left Lower A-Post Y-Axis Velocity	B-130
120	Left Middle A-Post Y-Axis Acceleration	B-131
121	Left Middle A-Post Y-Axis Velocity	B-132
122	Left Lower B-Post Y-Axis Acceleration	B-133
123	Left Lower B-Post Y-Axis Velocity	B-134
124	Left Middle B-Post Y-Axis Acceleration	B-135
125	Left Middle B-Post Y-Axis Velocity	B-136
126	Left Front Seat Track Y-Axis Acceleration	B-137
127	Left Front Seat Track Y-Axis Velocity	B-138
128	Left Rear Seat Track Y-Axis Acceleration	B-139
129	Left Rear Seat Track Y-Axis Velocity	B-140
130	Vehicle Center of Gravity X-Axis Acceleration	B-141



Table of Data Plots (Continued)

Test Vehicle Instrumentation Plots (Continued)

Acceleration Data - Filter Class 60

Integration Data - Filter Class 180

<u>Plot No.</u>	<u>Data Plot Title</u>	<u>Page</u>
131	Vehicle Center of Gravity X-Axis Velocity	B-142
132	Vehicle Center of Gravity Y-Axis Acceleration	B-143
133	Vehicle Center of Gravity Y-Axis Velocity	B-144
134	Vehicle Center of Gravity Z-Axis Acceleration	B-145
135	Vehicle Center of Gravity Z-Axis Velocity	B-146
136	Vehicle Center of Gravity Resultant Acceleration	B-147

MDB Instrumentation Plots

Acceleration Data - Filter Class 60

Integration Data - Filter Class 180

<u>Plot No.</u>	<u>Data Plot Title</u>	<u>Page</u>
137	MDB Center of Gravity X-Axis Acceleration	B-149
138	MDB Center of Gravity X-Axis Velocity	B-150
139	MDB Center of Gravity Y-Axis Acceleration	B-151
140	MDB Center of Gravity Y-Axis Velocity	B-152
141	MDB Center of Gravity Z-Axis Acceleration	B-153
142	MDB Center of Gravity Z-Axis Velocity	B-154
143	MDB Center of Gravity Resultant Acceleration	B-155
144	MDB Left Rear X-Axis Acceleration	B-156
145	MDB Left Rear X-Axis Velocity	B-157
146	MDB Left Rear Y-Axis Acceleration	B-158
147	MDB Left Rear Y-Axis Velocity	B-159
148	MDB Right Side Contact Switch	B-160
149	MDB Left Side Contact Switch	B-161

Table of Data Plots (Continued)  
Driver and Passenger Dummy Instrumentation Plots  
Acceleration Data - FIR Filtered

<u>Plot No.</u>	<u>Data Plot Title</u>	<u>Page</u>
150	Driver Upper Rib Y-Axis Acceleration	B-163
151	Driver Lower Rib Y-Axis Acceleration	B-164
152	Driver Lower Spine Y-Axis Acceleration	B-165
153	Driver Pelvis Y-Axis Acceleration	B-166
154	Left Rear Passenger Upper Rib Y-Axis Acceleration	B-167
155	Left Rear Passenger Lower Rib Y-Axis Acceleration	B-168
156	Left Rear Passenger Lower Spine Y-Axis Acceleration	B-169
157	Left Rear Passenger Pelvis Y-Axis Acceleration	B-170

Driver and Passenger Dummy Instrumentation Plots  
Acceleration Data - FIR Filtered - Redundant

<u>Plot No.</u>	<u>Data Plot Title</u>	<u>Page</u>
158	Driver Upper Rib Y-Axis Redundant Acceleration	B-172
159	Driver Lower Rib Y-Axis Redundant Acceleration	B-173
160	Driver Lower Spine Y-Axis Redundant Acceleration	B-174
161	Driver Pelvis Y-Axis Redundant Acceleration	B-175
162	Left Rear Passenger Upper Rib Y-Axis Redundant Acceleration	B-176
163	Left Rear Passenger Lower Rib Y-Axis Redundant Acceleration	B-177
164	Left Rear Passenger Lower Spine Y-Axis Redundant Acceleration	B-178
165	Left Rear Passenger Pelvis Y-Axis Redundant Acceleration	B-179



Driver and Passenger Dummy Instrumentation Plots

Acceleration Data - Filter Class 1000

Integration Data - Filter Class 180

Force Data - Filter Class 1000

Moment Data - Filter Class 600

Contact Data - Filter Class 1000

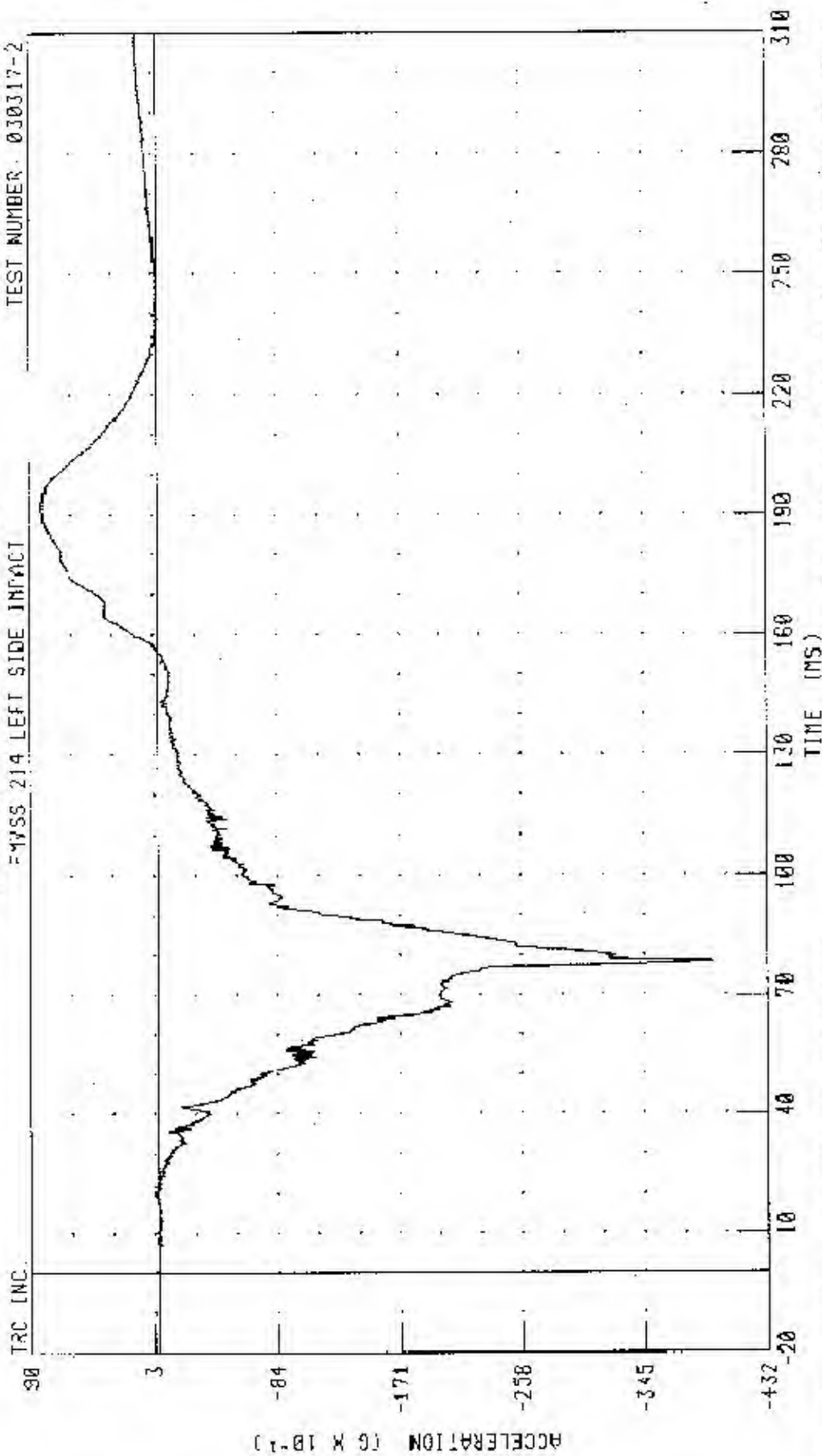
55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 MAZDA 6

DRIVER HEAD X-AXIS ACCELERATION

WISS 214 LEFT SIDE IMPACT

TEST NUMBER: 030317-2

TRC INC.



CHANNEL HEDXC1 FILTER CH CLASS 1000

PEAK DATA 8.20 G @ 192.32 MS, -39.33 G @ 70.32 MS

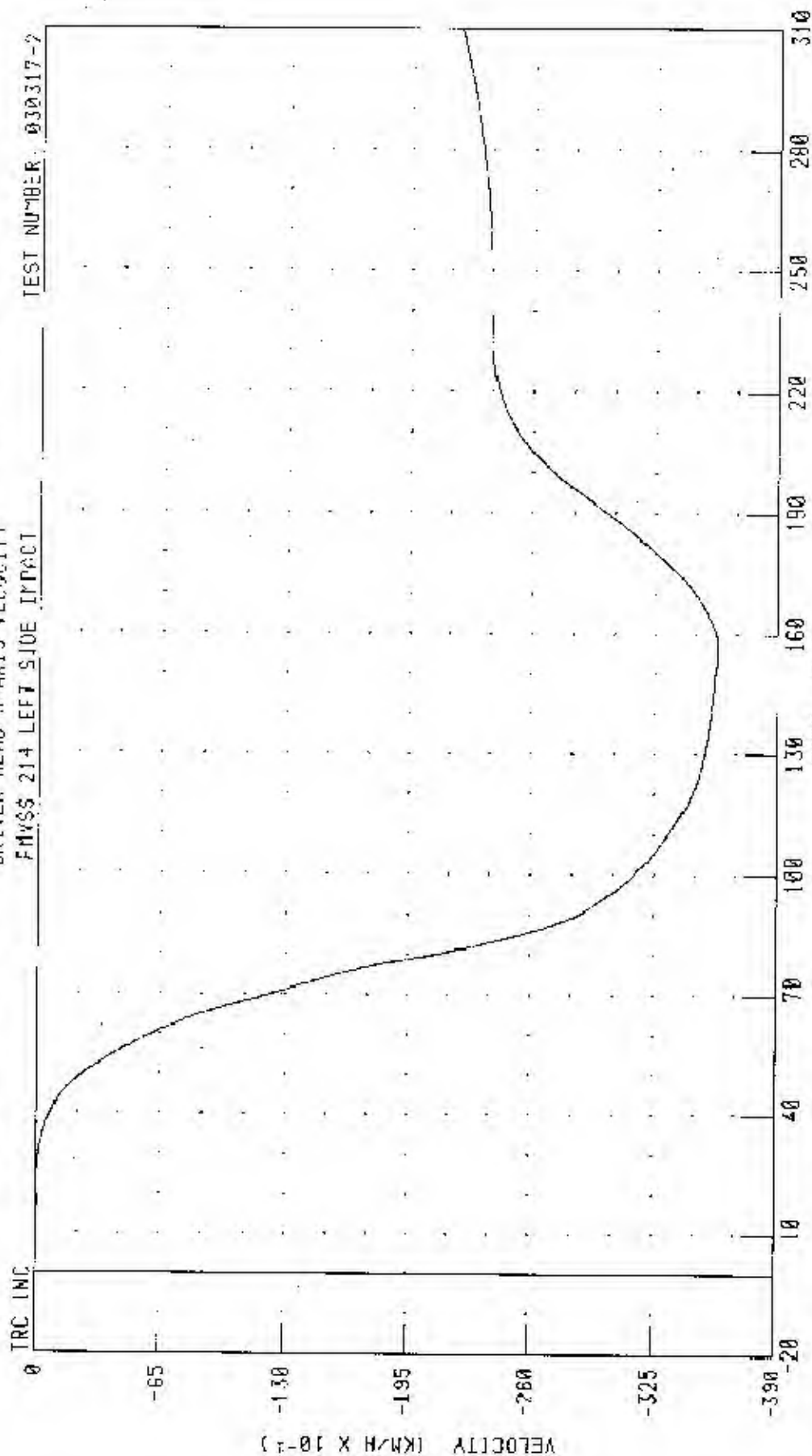


55/23 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 MAZDA 6

DRIVER HEAD X-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030317-2



TIME (MS)

CHANNEL: HEDXVI FILTER: CH, CLASS 180

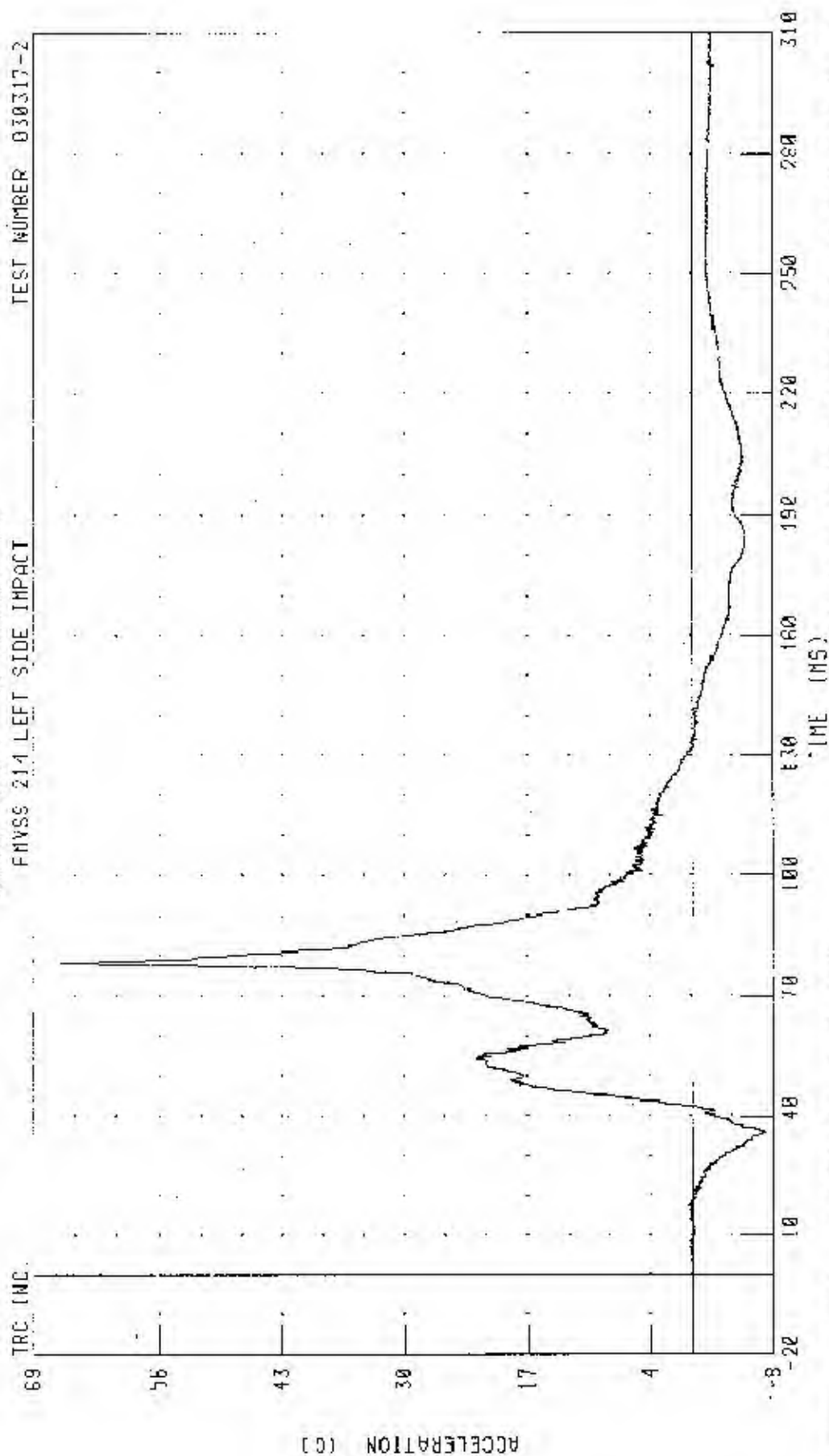
PEAK DATA 0 00 KM/H @ 1 84 MS, -35.89 KM/H @ 156 16 MS

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 MAZDA 6

DRIVER HEAD Y-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER 030317-2



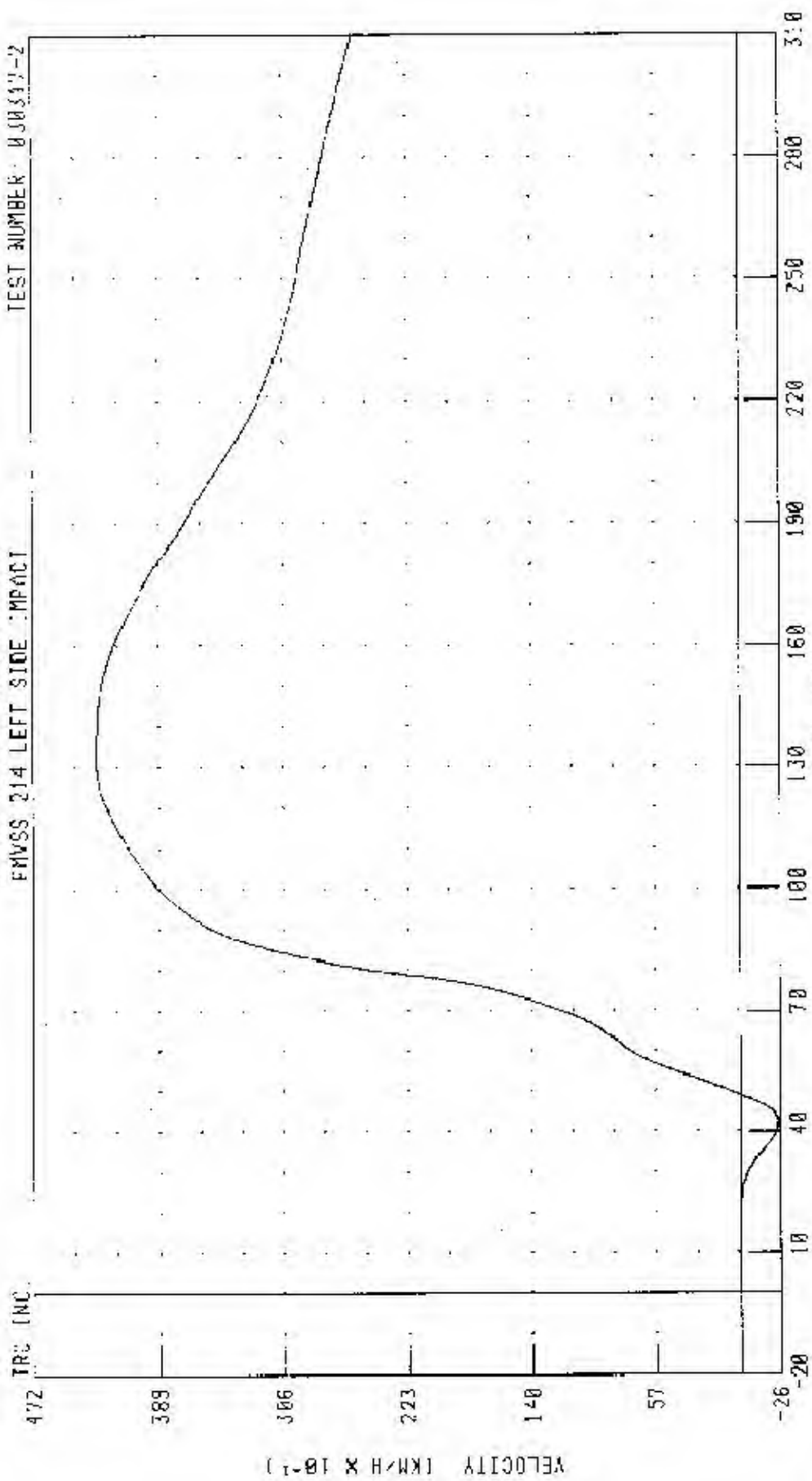


55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 MAZDA 6

DRIVER HEAD Y-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030317-2



PEAK DATA: 43.08 KM/H @ 132.08 MS, -2.44 KM/H @ 42.48 MS

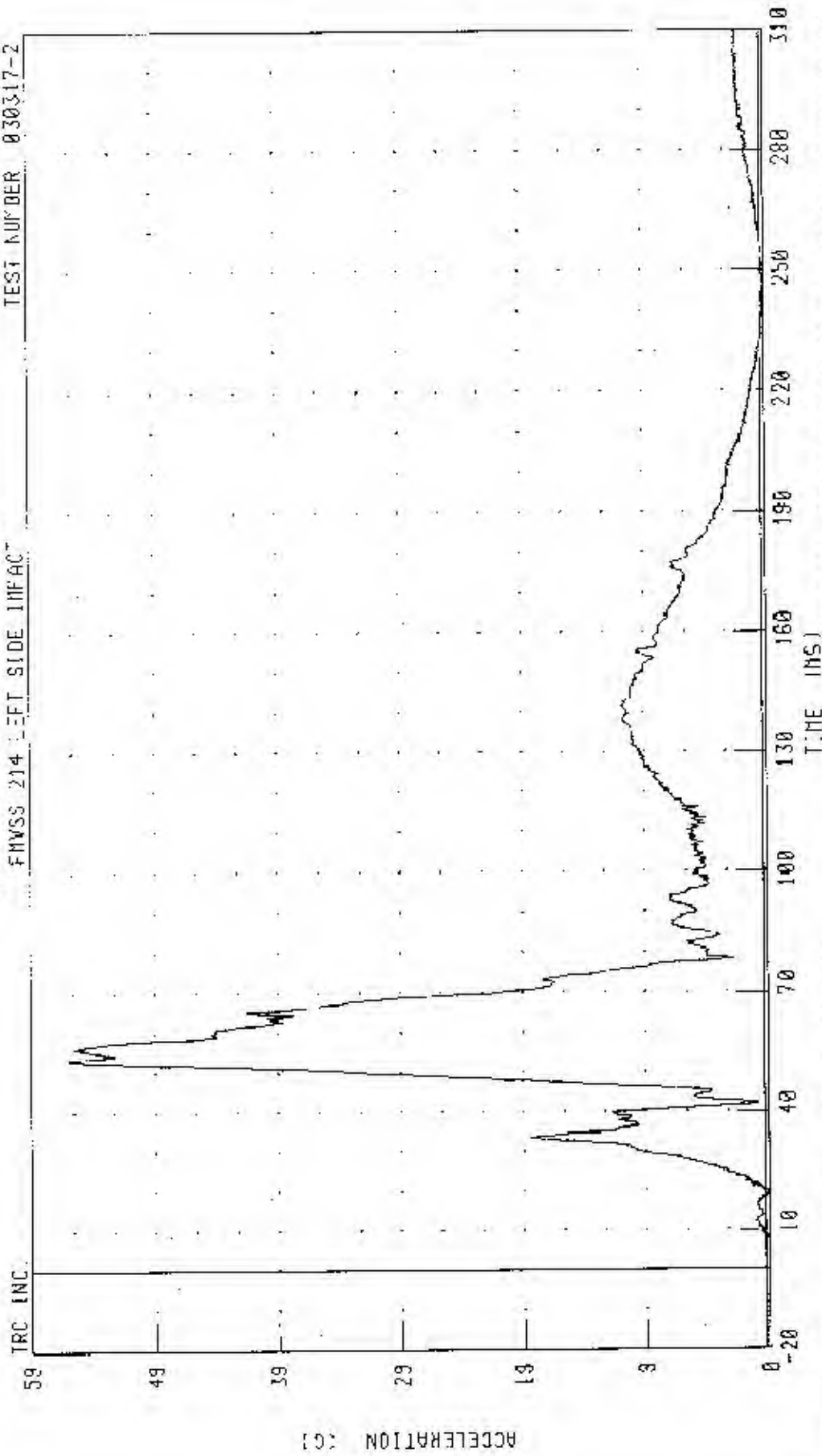
CHANNEL: HEDYV1 FILTER: CH. CLASS 180

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 MAZDA 6

DRIVER HEAD Z-AXIS ACCELERATION

FHVSS 214 LEFT SIDE IMPACT

TEST NUMBER 030317-2



CHANNEL HEDZG1 FILTER CH. CLASS 1000

PEAK DATA 56.61 G @ 53.44 MS, 0.32 G @ 216.24 MS



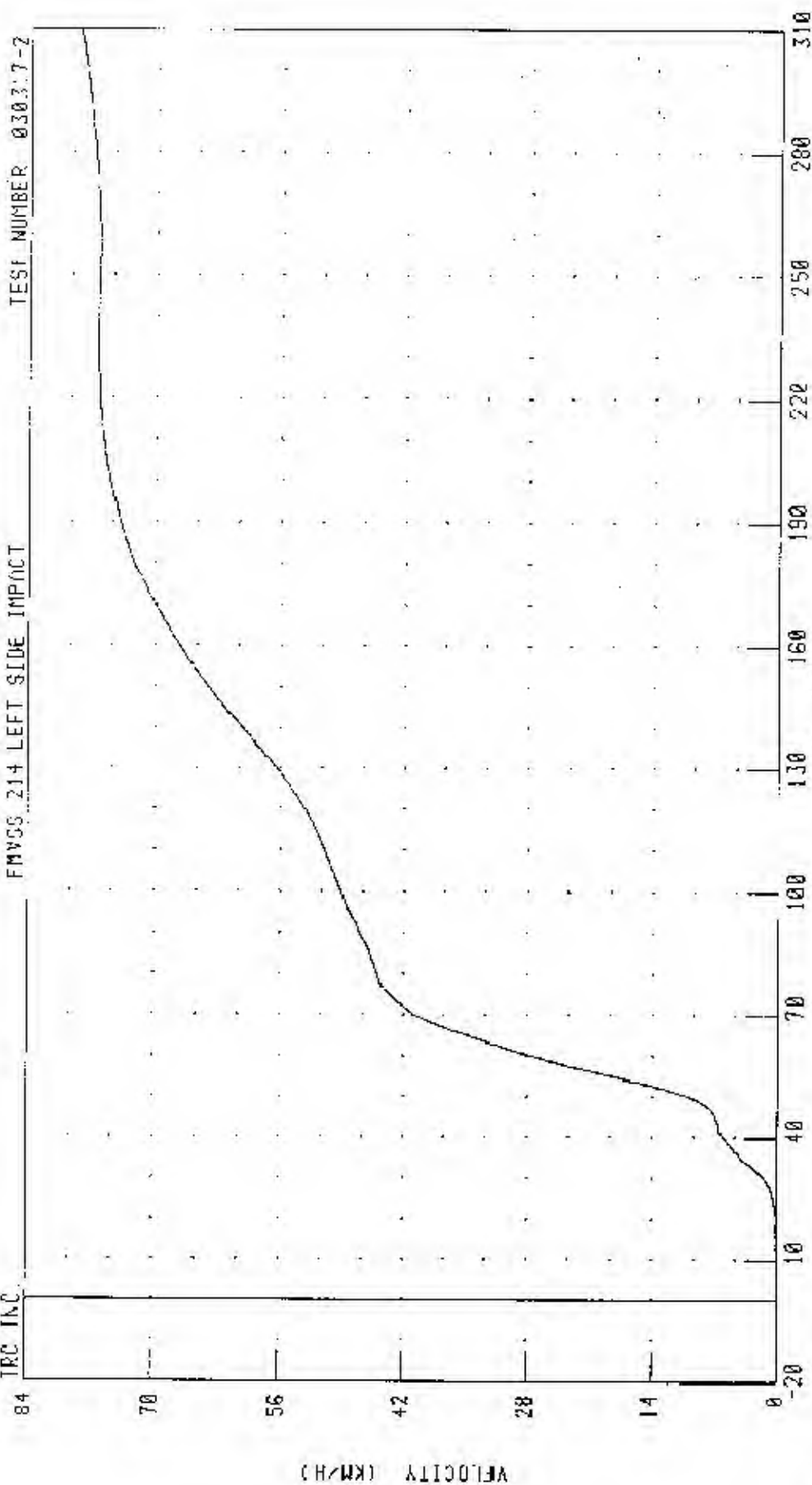
55/28 KPH 90 DEGREE SIDE IMPACT (MOVING) DEFORMABLE BARRIER 1 INTO LEFT SIDE OF 2003 MAZDA 6

DRIVER HEAD Z-AXIS VELOCITY

TRC INC.

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER 030317-2



PEAK DATA: 78 64 KM/H @ 310.00 MS; 0.00 KM/H @ 5.52 MS

CHANNEL HEDZV1 FILTER: CH. CLASS 180

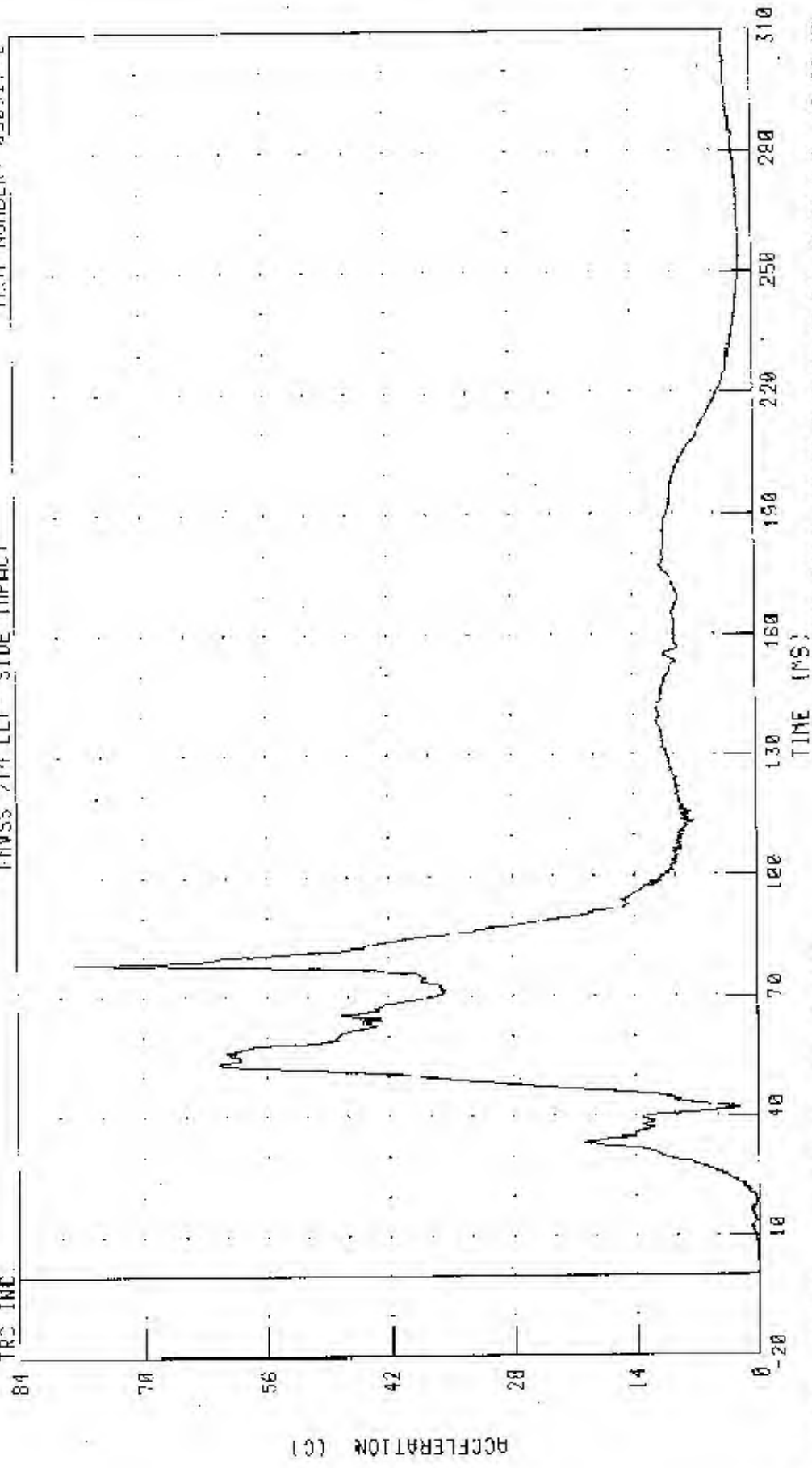
55/28 KPH 30 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 MAZDA 6

DRIVER HEAD RESULTANT ACCELERATION

TEST NUMBER: 030317-2

FMVSS 214 LEFT SIDE IMPACT

TRC INC.



PEAK DATA: 77.60 C @ 78.40 MS, 0.00 C @ -19.28 MS

CHANNEL: HEADG1 FILTER: CH. CLASS 1000

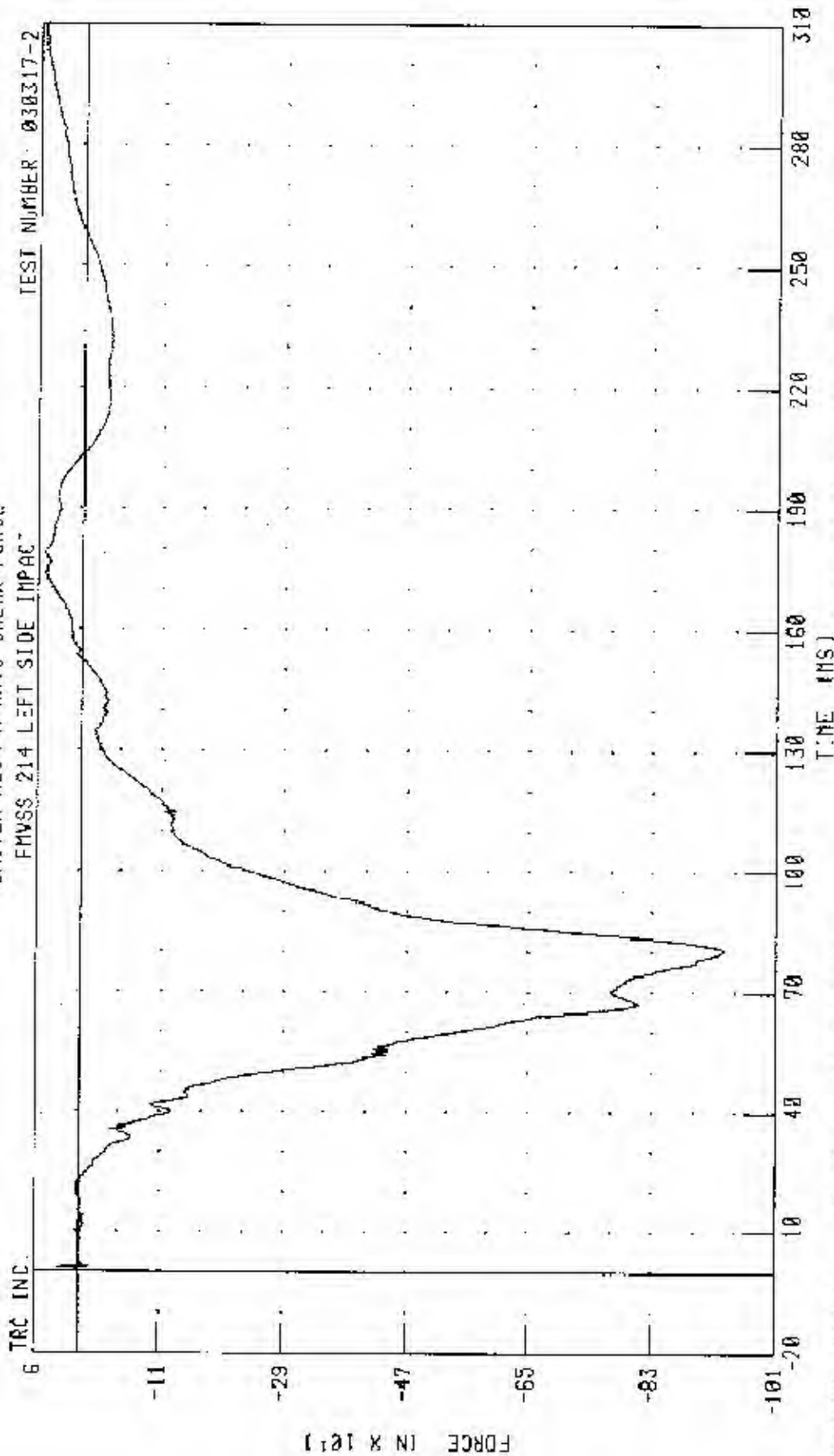


55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 MAZDA 6

DRIVER SEAT X-AXIS SHEAR FORCE

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER 030317-2



TIME (MS)

CHANNEL NEKXF1 FILTER: CH, CLASS 1000

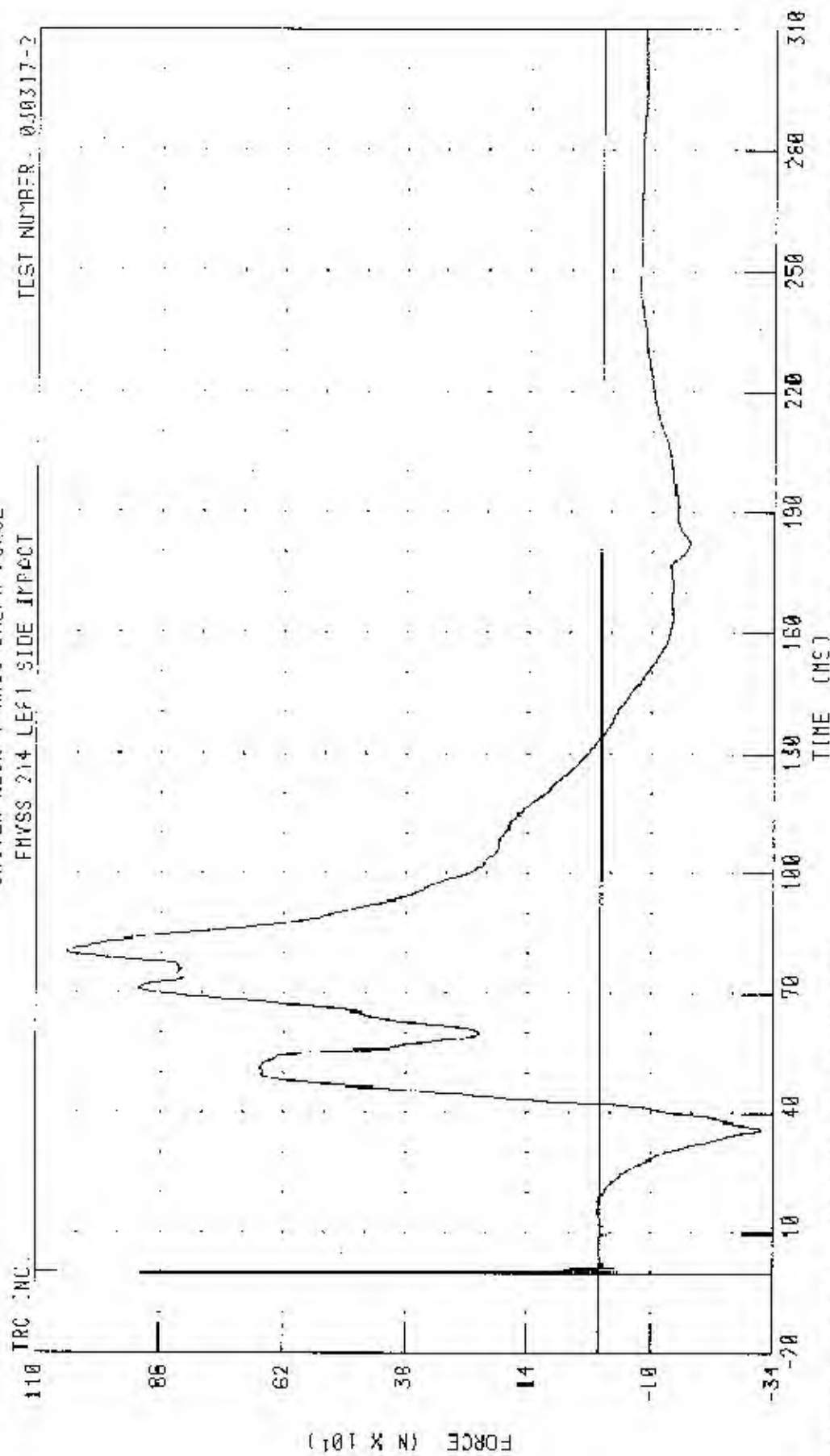
PEAK DATA: 58.69 N @ 309.84 MS; -940.29 N @ 80.40 MS

55/28 <PH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) IN U LEFT SIDE OF 2003 MAZDA 6

DRIVER NECK Y-AXIS SHEAR FORCE

FHYSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030317-2



CHANNEL: NEKYF1 FILTER: CH. CLASS 1000

PEAK DATA: 1042 11 N @ 80.80 MS; -317 03 N @ 35.84 MS

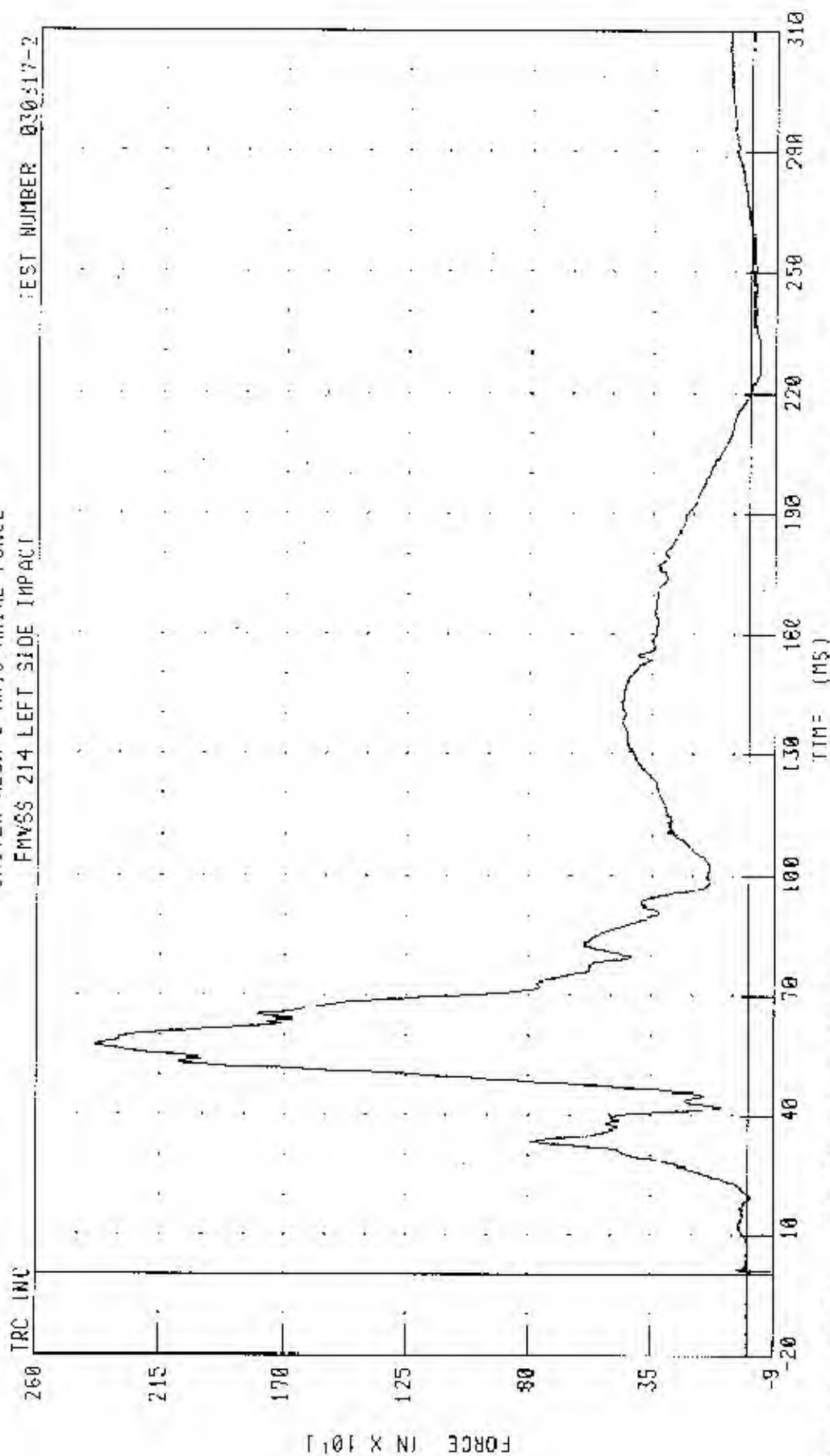


55/28 KPH 30 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 MAZDA 6

DRIVER NECK Z-AXIS AXIAL FORCE

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER 030317-2

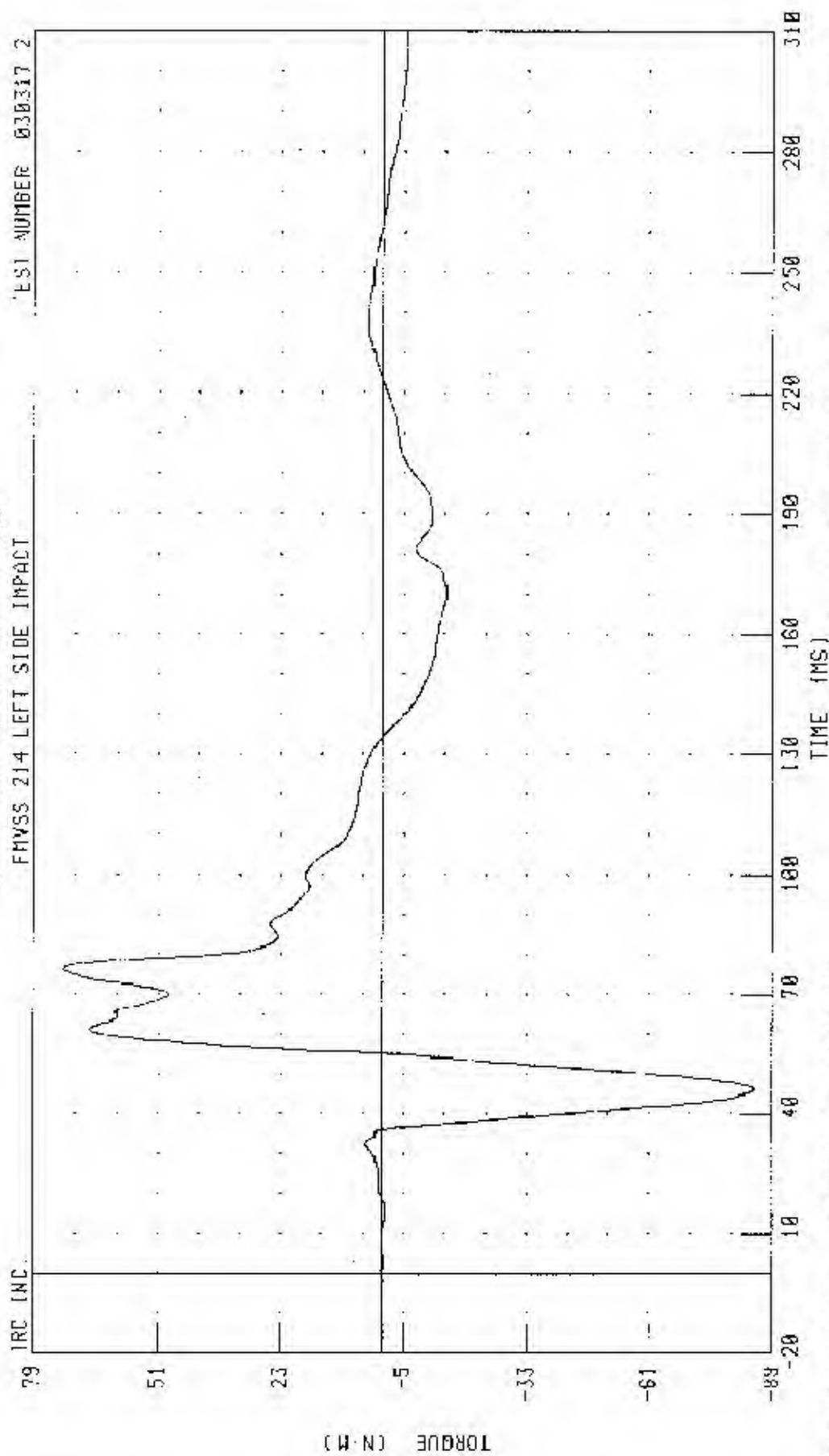


CHANNEL: NEKZF: FILTER: CH CLASS 1000

PEAK DATA 2198 54 N @ 57.60 MS, -83.85 N @ 0.88 MS

55.28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 HATDA R

DRIVER NECK MOMENT ABOUT X AXIS

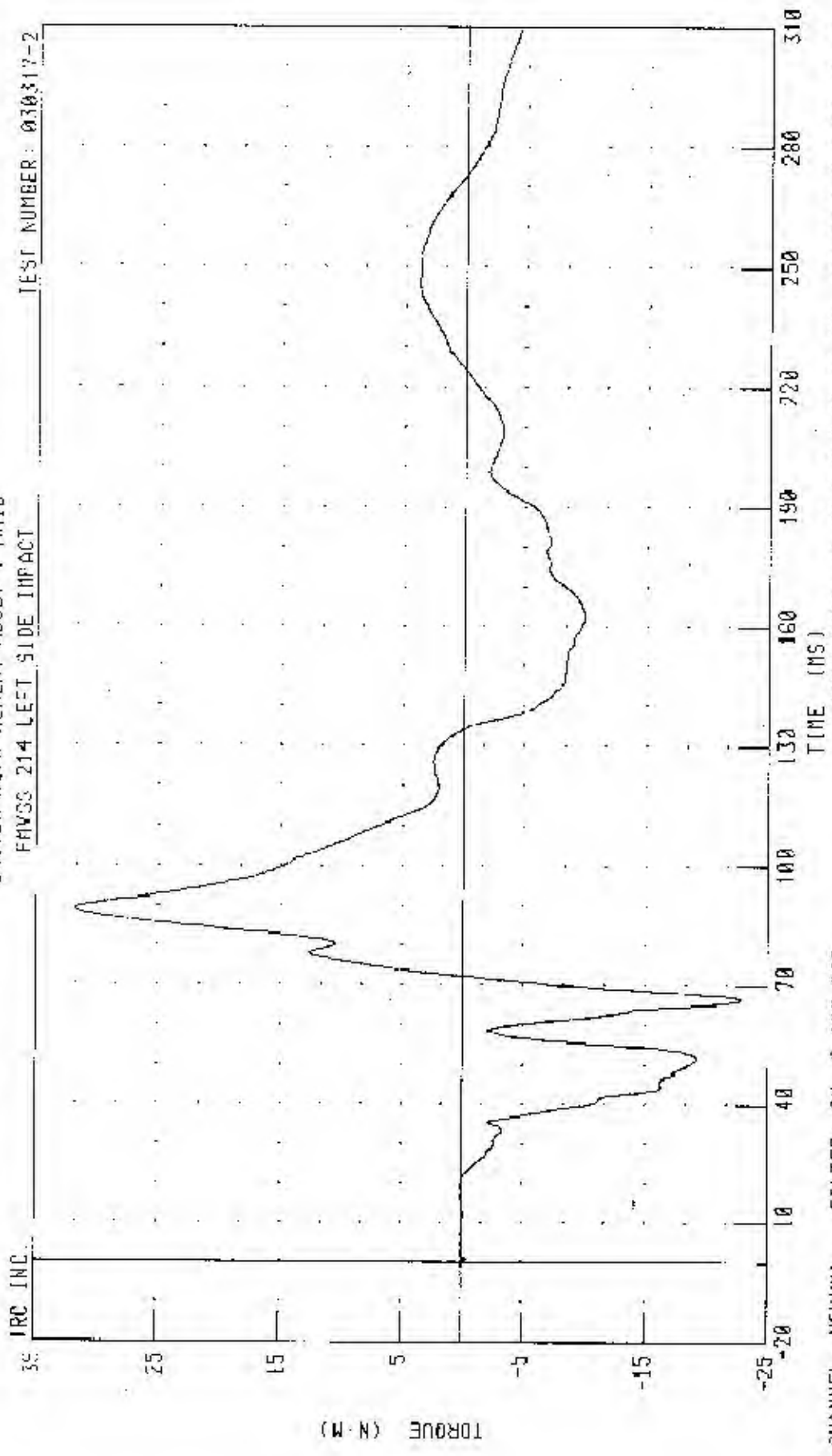




55-28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 MAZDA 5

DRIVER NECK MOMENT ABOUT Y AXIS

IRC INC. \_\_\_\_\_ FAVSS 214 LEFT SIDE IMPACT \_\_\_\_\_ TEST NUMBER: 030317-2



CHANNEL: NEKYM1 FILTER: CH CLASS 600

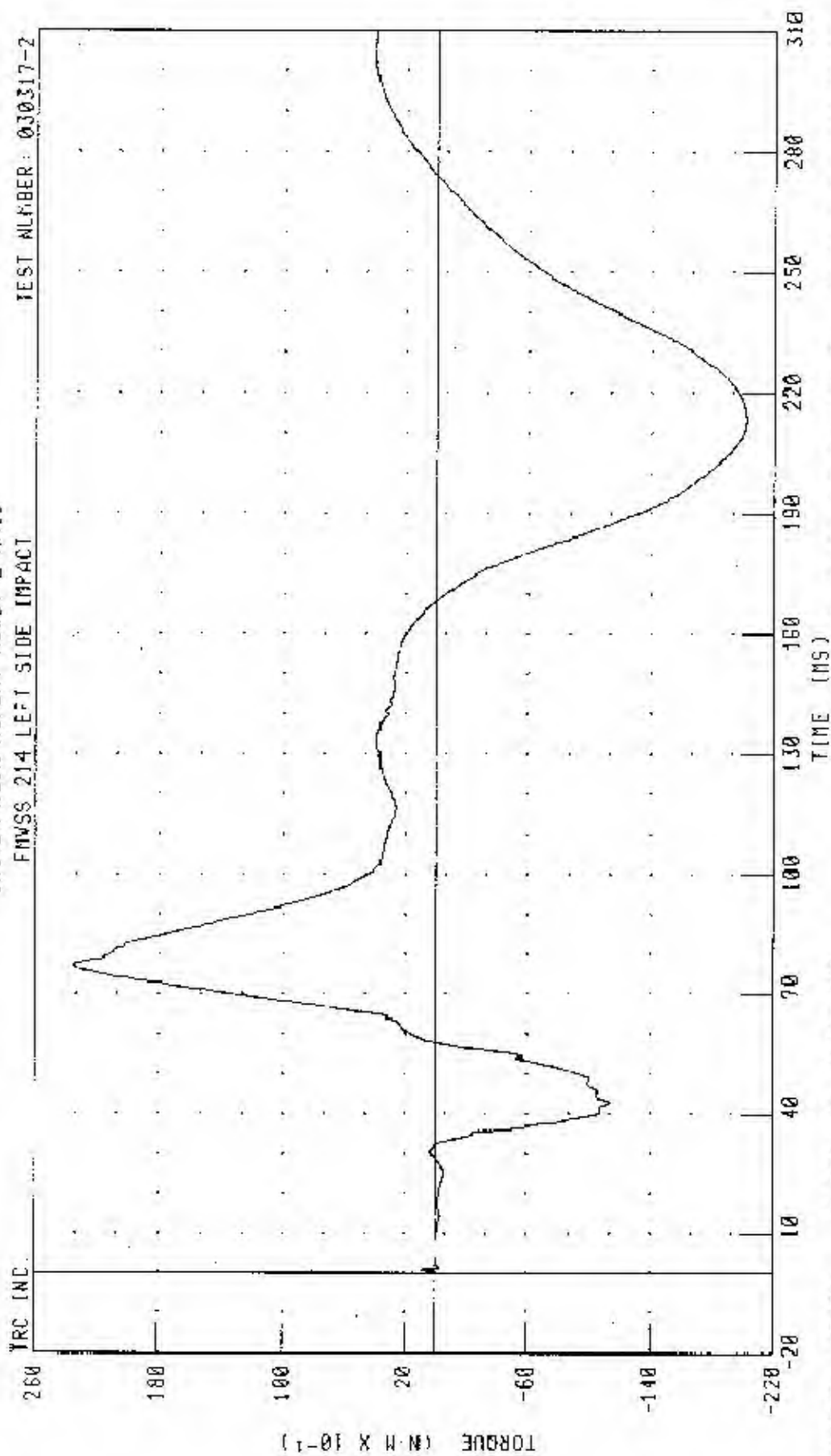
PEAK DATA: 31 72 N M @ 66.04 MS; -22.87 N M @ 66 40 MS

55/20 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 MAZDA 6

DRIVER NECK MOMENT ABOUT Z AXIS

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030317-2



CHANNEL: NEK2M1 FILTER: CH CLASS 600

PEAK DATA: 23.48 N M @ 70.96 MS; -20.25 N M @ 213.28 MS

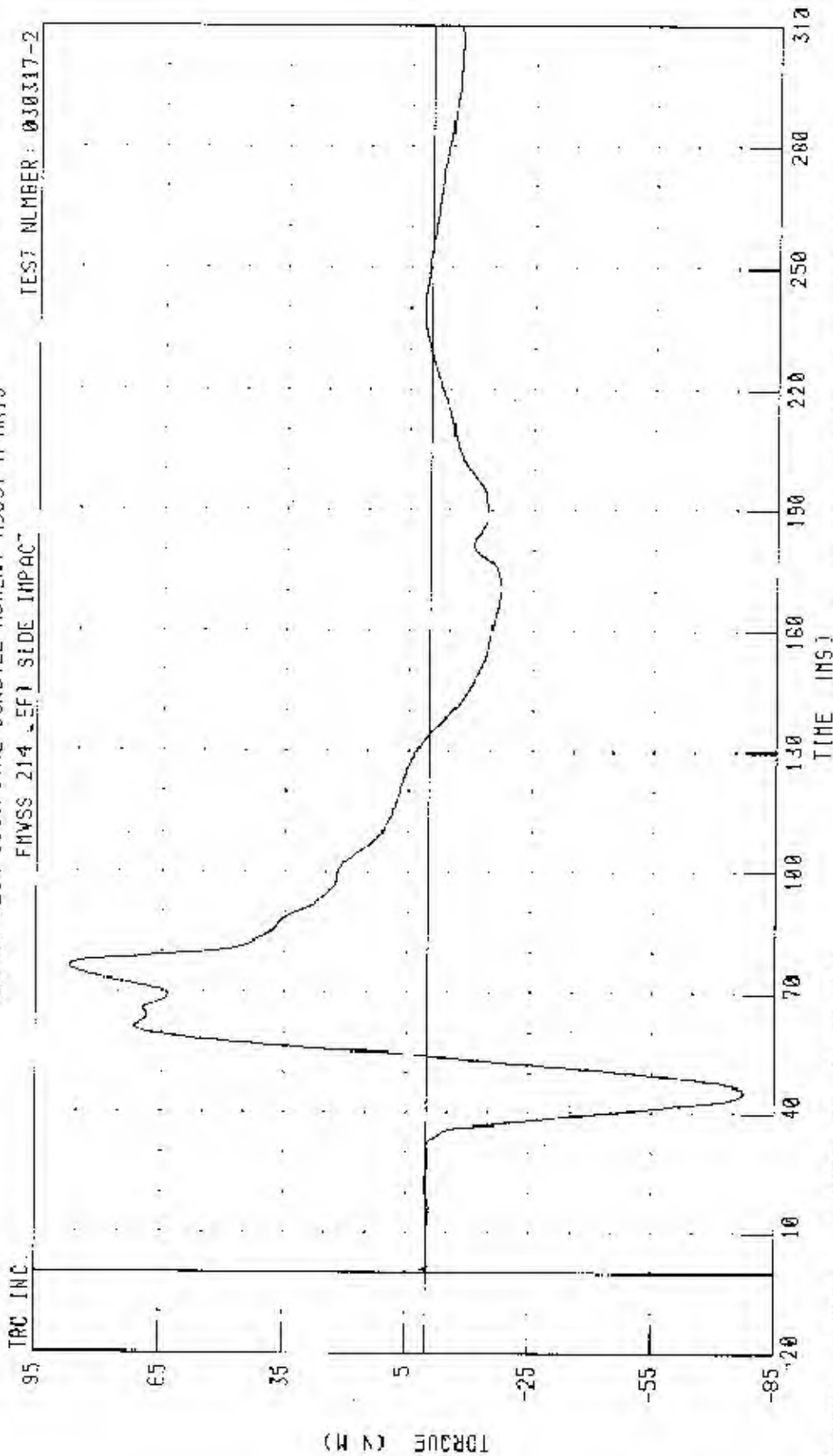


55/28 KPH 90 DEGREE SIDE IMPACT MOVING DEFORMABLE BARRIER, IN10 LEFT SIDE OF 7003 MAZDA 6

DRIVER NECK OCCIPITAL CONDYLE MOMENT 030JT X AXIS

TEST NUMBER: 030317-2

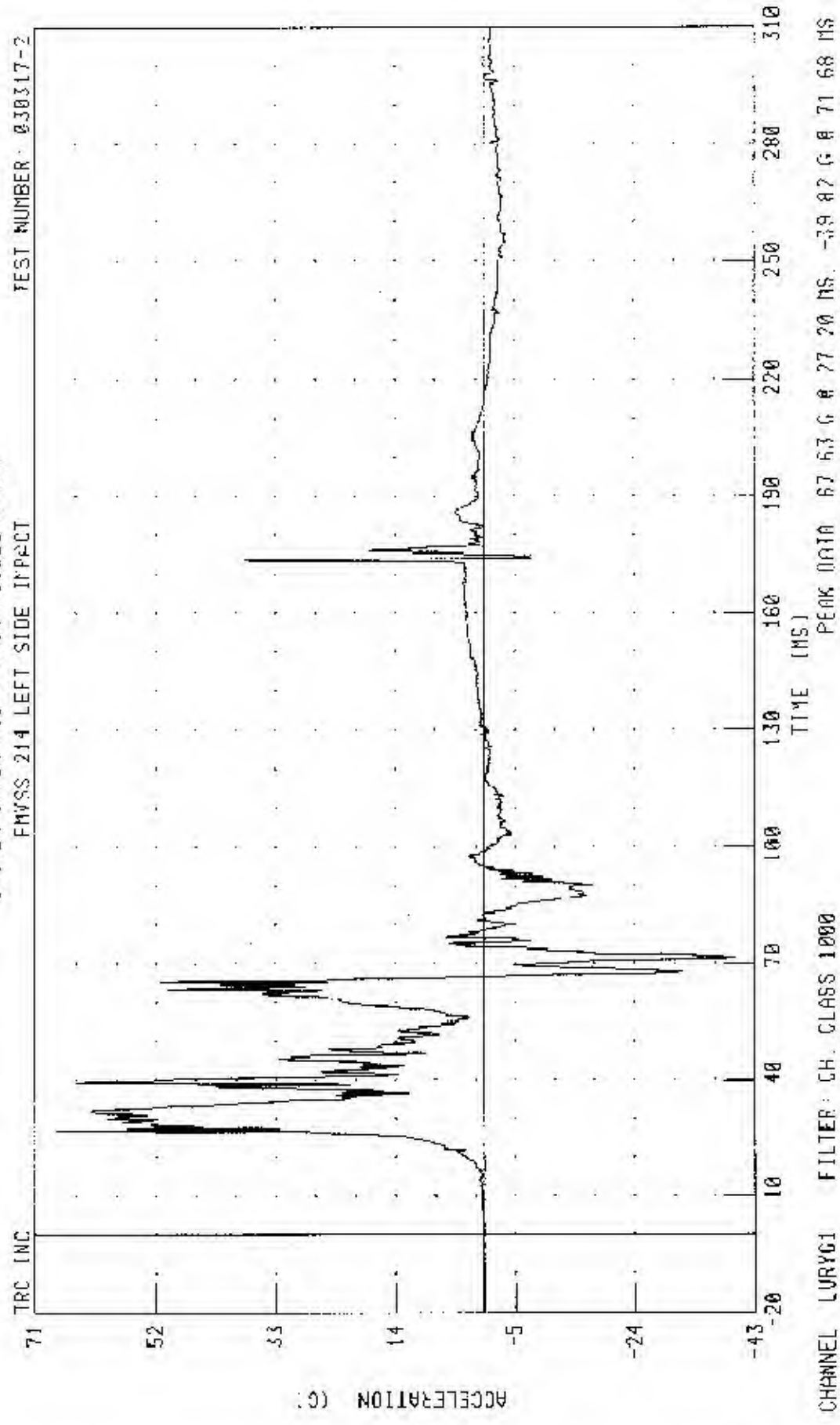
FMVSS 214, EF1 SIDE IMPACT



CHANNEL NK0011 FILTER: CH CLASS 600

PEAK DATA: 87.82 N.M @ 76.40 MS, -77.49 N.M @ 45.69 MS

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 MAZDA R  
 DRIVER UPPER RIB Y-AXIS ACCELERATION





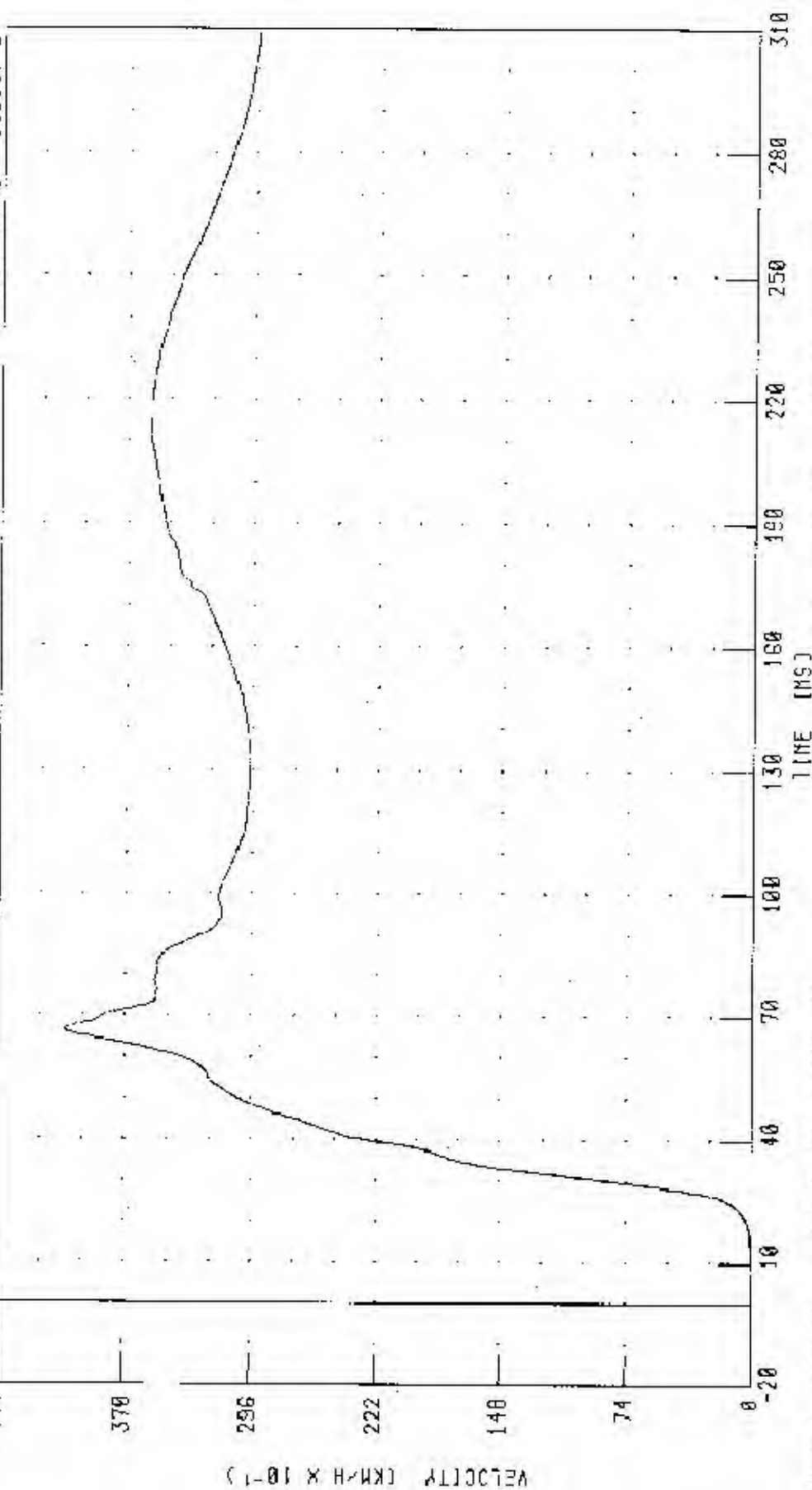
55-28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 MPVUA 6

DRIVER UPPER RIB Y-AXIS VELOCITY

TRC INC

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER 030317-2



CHANNEL: LURYV1 FILIER: CH. CLASS 180

TIME [MS]

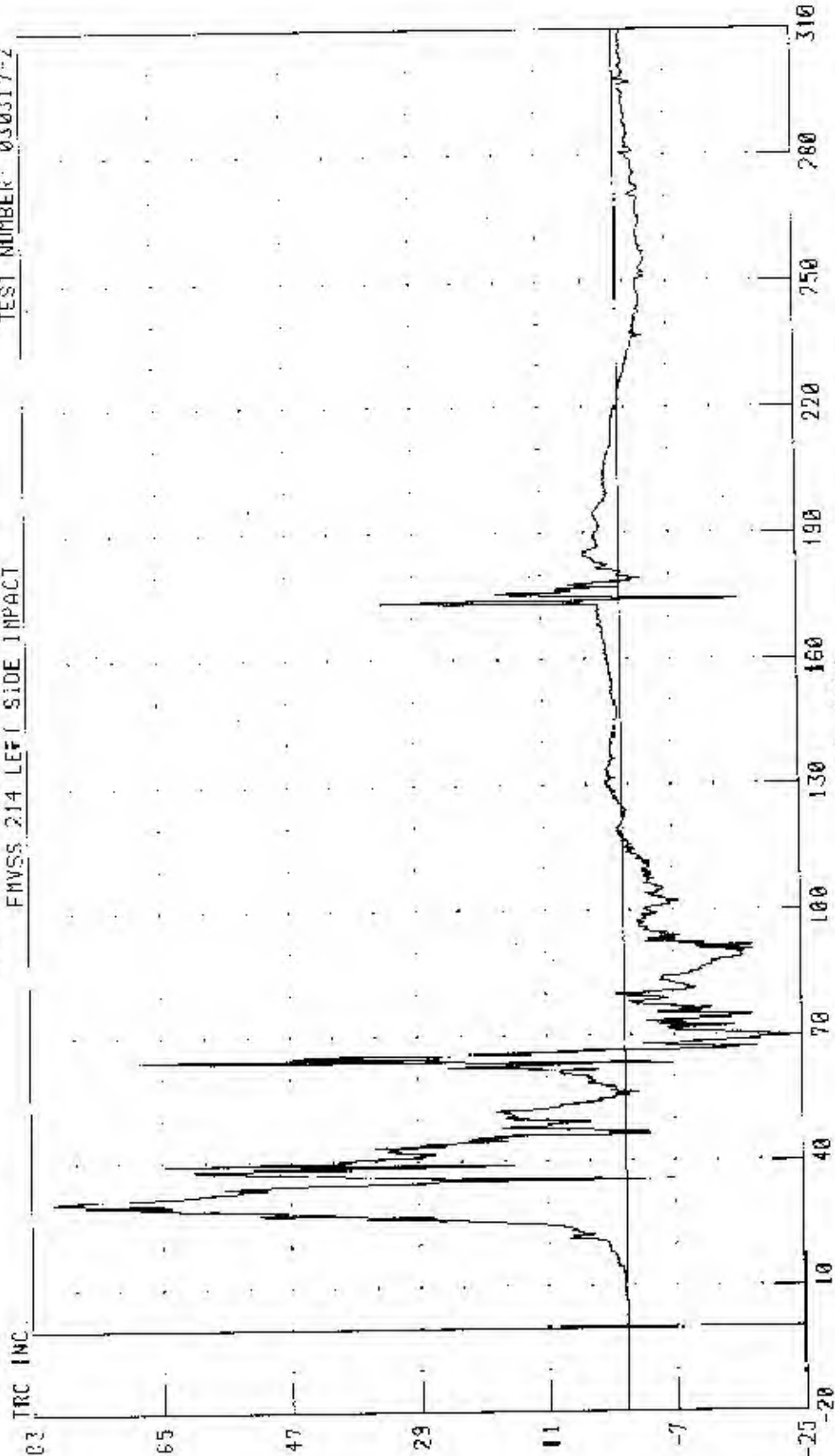
PEAK DATA: 40.51 KM/H @ 50.56 MS; 0.80 KM/H @ 0.49 MS

55/28 KPH 30 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 MAZDA 6

DRIVER LOWER RTB - AXIS ACCELERATION

TEST NUMBER 030317-2

FMVSS 214 LEFT SIDE IMPACT



TIME (MS)

PEAK DATA: 79.95 G @ 30.48 MS, -23.62 G @ 69.84 MS

CHANNEL: LLRYC1 FILTER: CH. CLASS 1000

ACCELERATION (G)



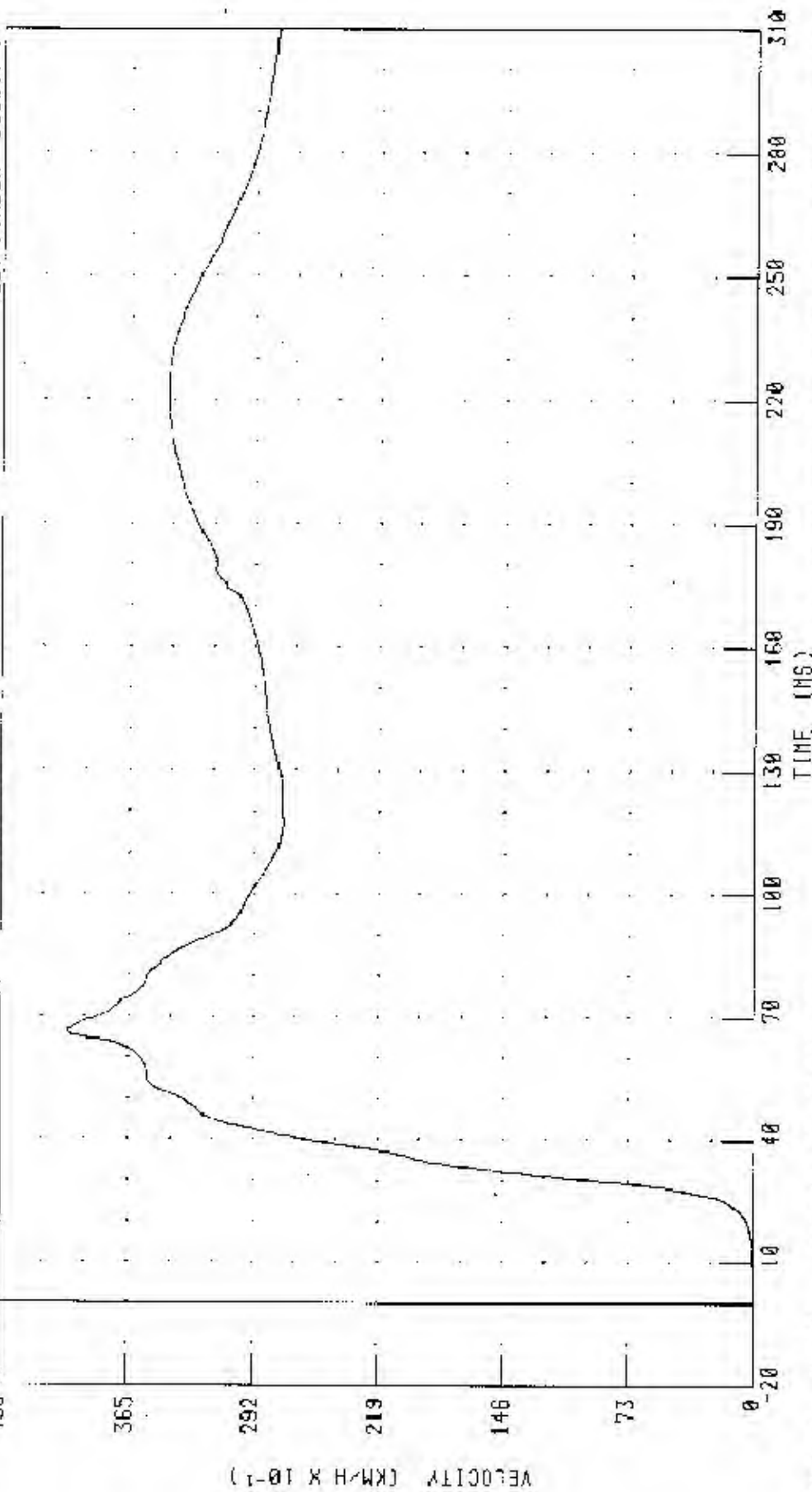
55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 MAZDA 6

DRIVER LOWER RIB V AXIS VELOCITY

TRC INC.

FWSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030317-2



CHANNEL: LLRYV1 FILTER: CH. CLASS 100

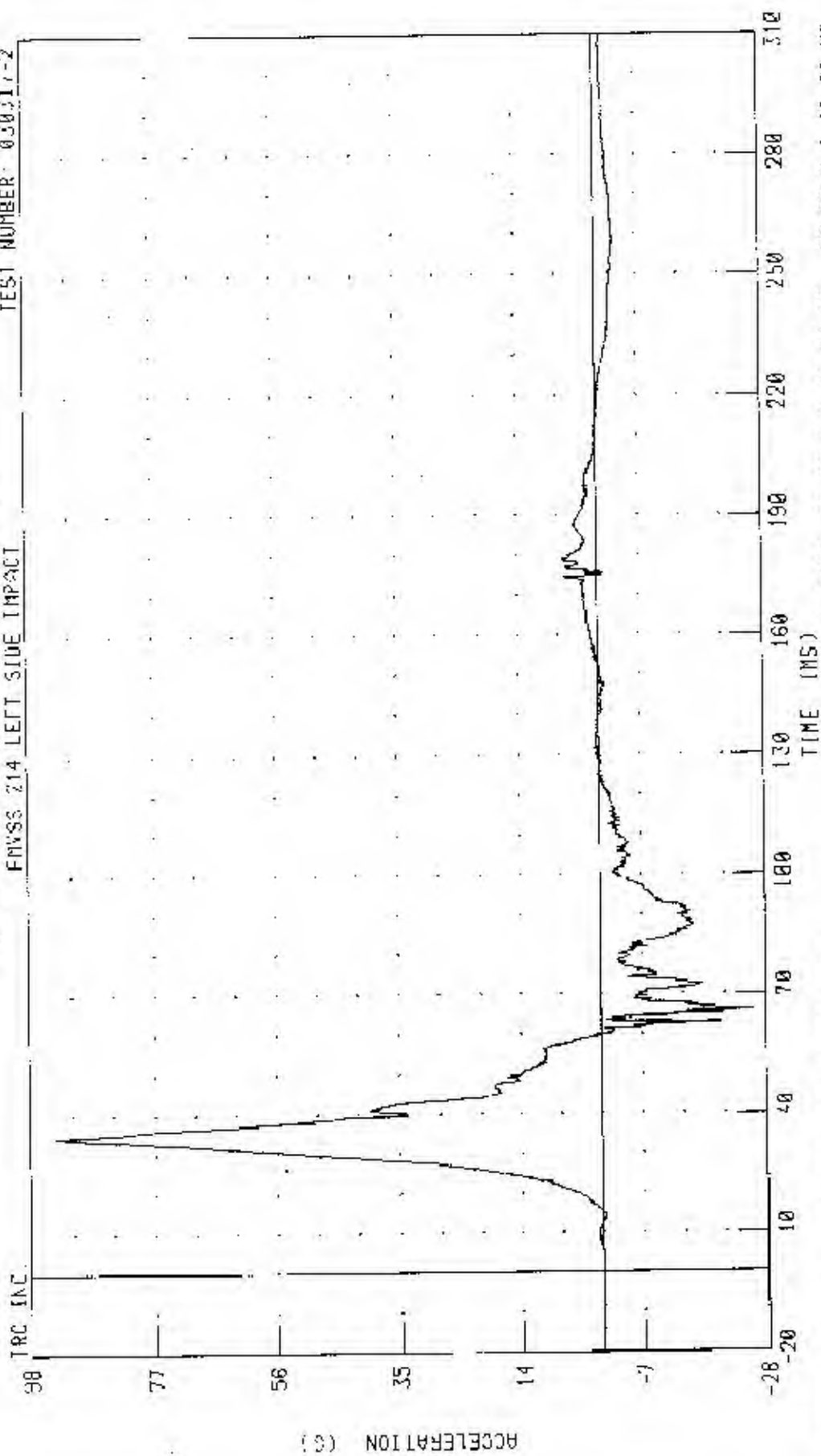
PEAK DATA 39.98 KM/H @ 60.32 MS; 0.00 KM/H @ 0.96 MS

55/20 MPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 MAZDA 6

DRIVER LOWER SPINE Y-AXIS ACCELERATION

TEST NUMBER: 030317-2

FMVSS 214 LEFT SIDE IMPACT



CHANNEL: T12YG1 FILTER: CH CLASS 1800

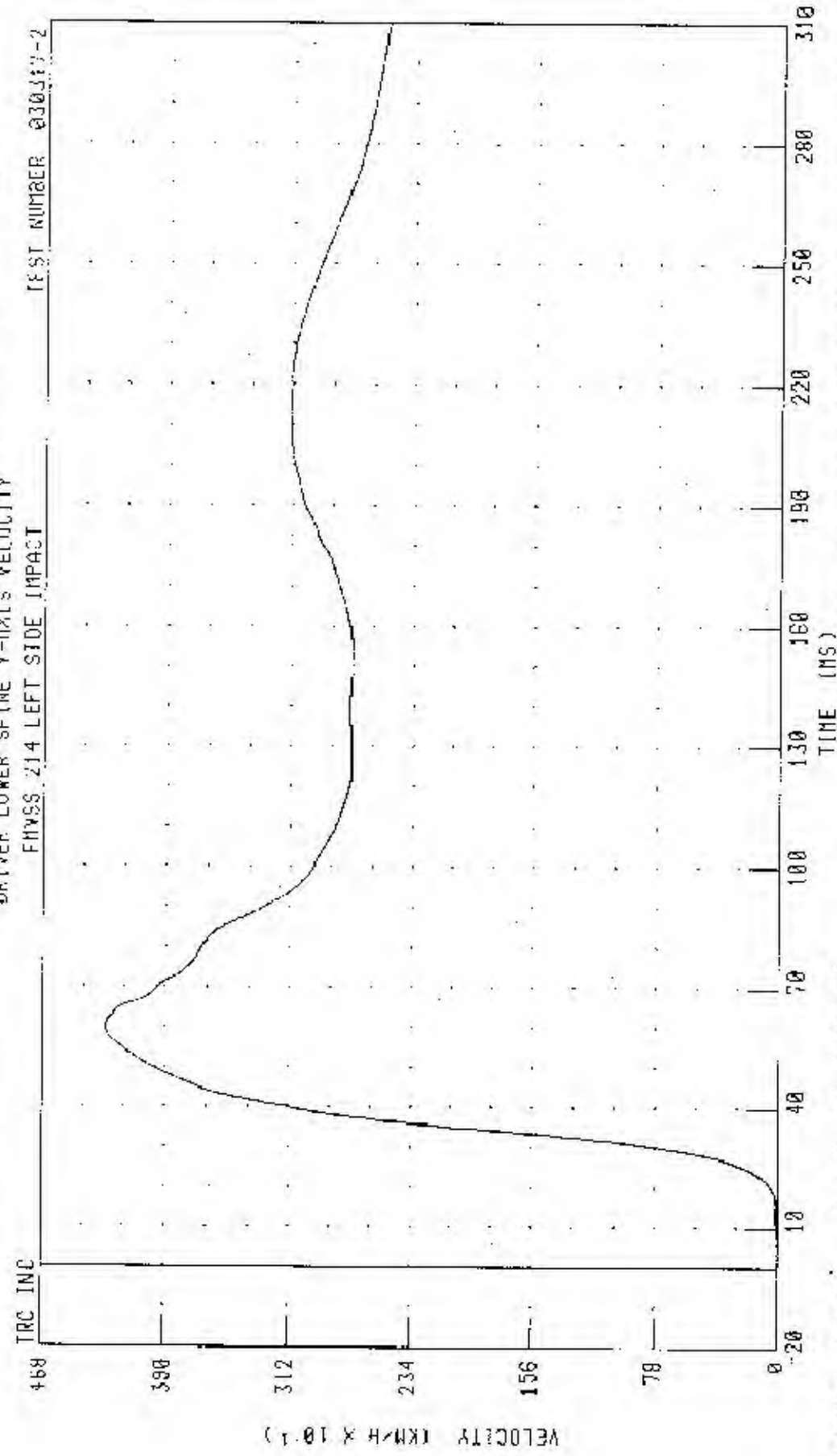
PEAK DATA 93.77 G @ 34.84 MS. -25.66 G @ 66.00 MS



55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 MAZDA 6

DRIVER LOWER SPINE Y-AXIS VELOCITY

PHYSS 214 LEFT SIDE IMPACT TEST NUMBER 030317-2



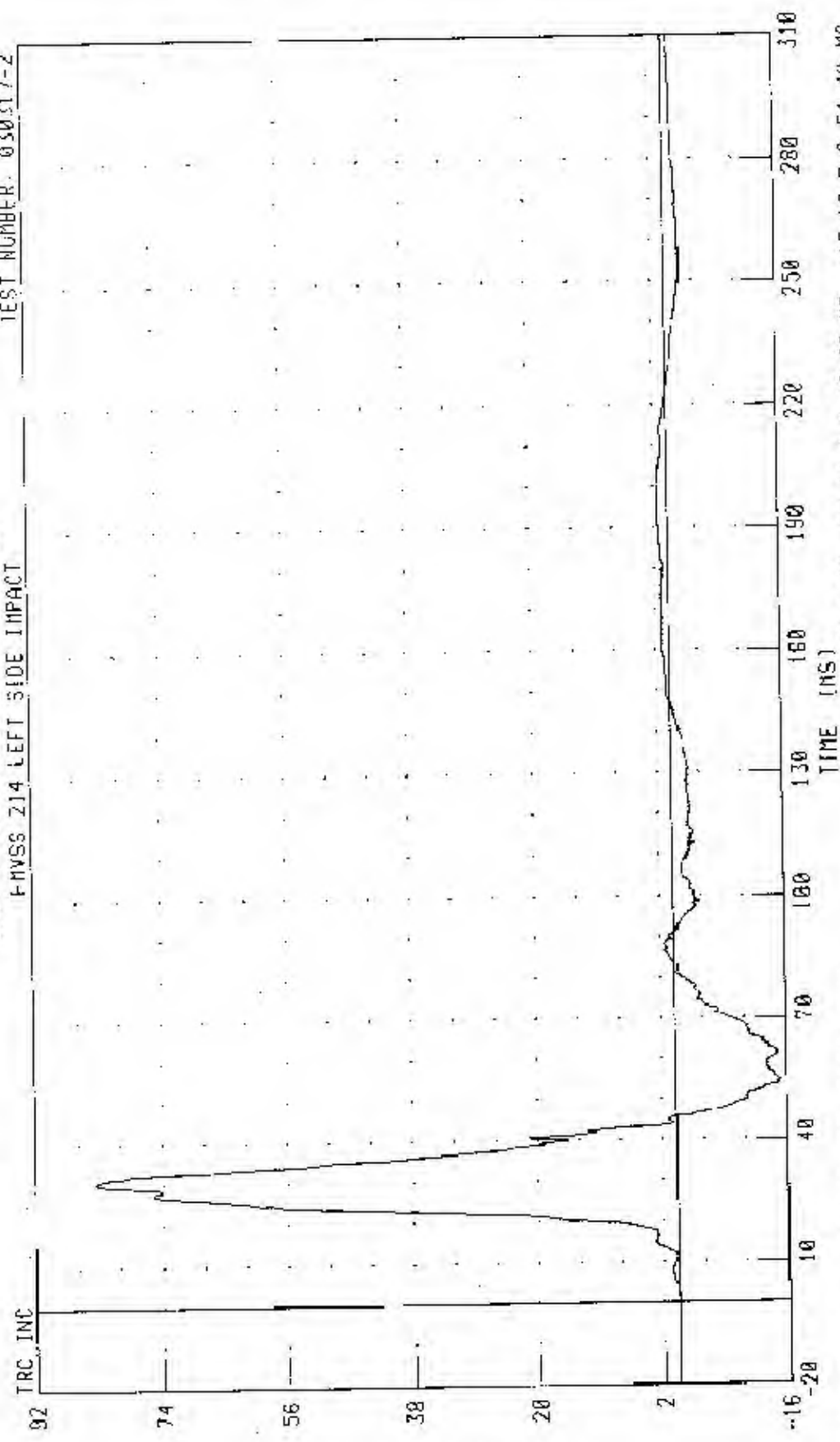
CHANNEL: T2YV1 FILTER: CH CLASS: 180 PEAK DATA: 42.05 KM/H @ 59.92 MS, 0.80 KM/H @ 0.00 MS

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 MAZDA 6

DRIVER PELVIS Y-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030317-2



PEAK DATA 83.44 G @ 30.80 MS; -15.10 G @ 54.49 MS

CHANNEL: PEVYG1 FILTER: CH CLASS 1000

(G) ACCELERATION

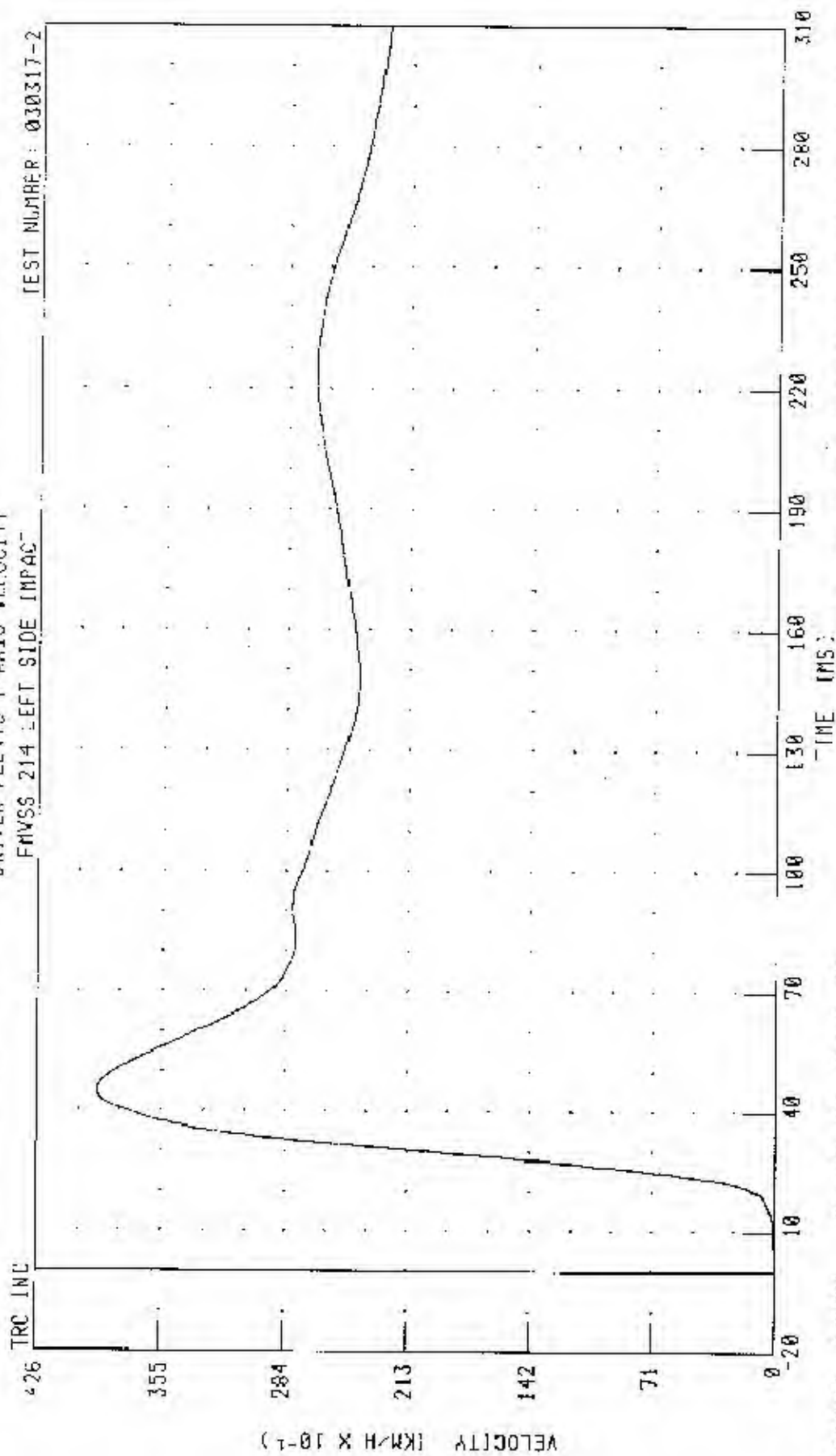


55/28 KPH 90 DEGREE SIDE IMPACT - MOVING DEFORMABLE BARRIER INTO LEFT SIDE OF 2003 MAXDA C

DRIVER PELVIS Y-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030317-2



CHANNEL: PEVYV1 FILTER: CH. CLASS 180

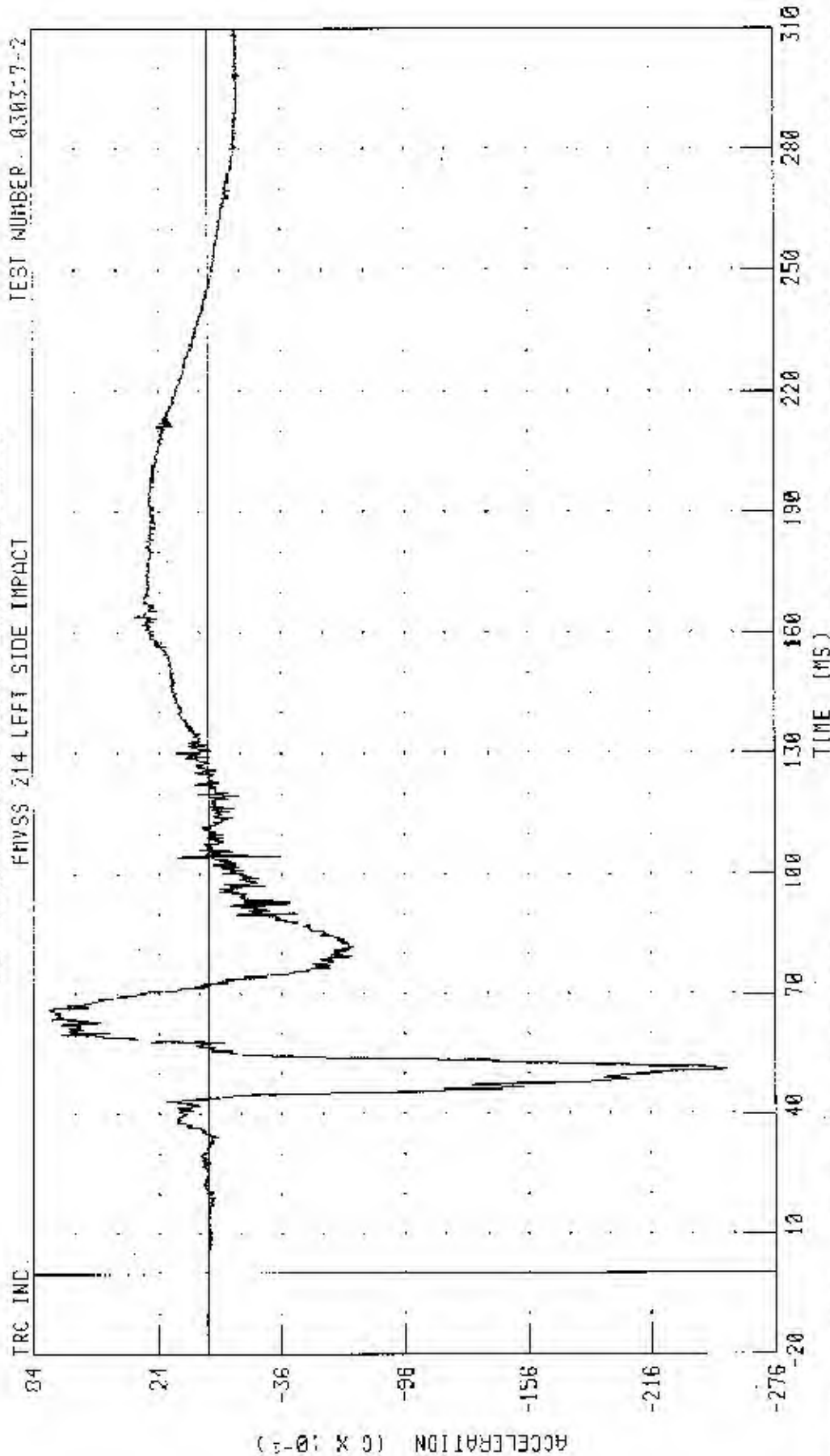
PEAK DATA 39.10 KM/H @ 45.44 MS, 0.00 K1/H @ 0.00 MS

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 MAZDA 6

LEFT REAR PASSENGER HEAD X-AXIS ACCELERATION

TEST NUMBER: 030317-2

FMVSS 214 LEFT SIDE IMPACT

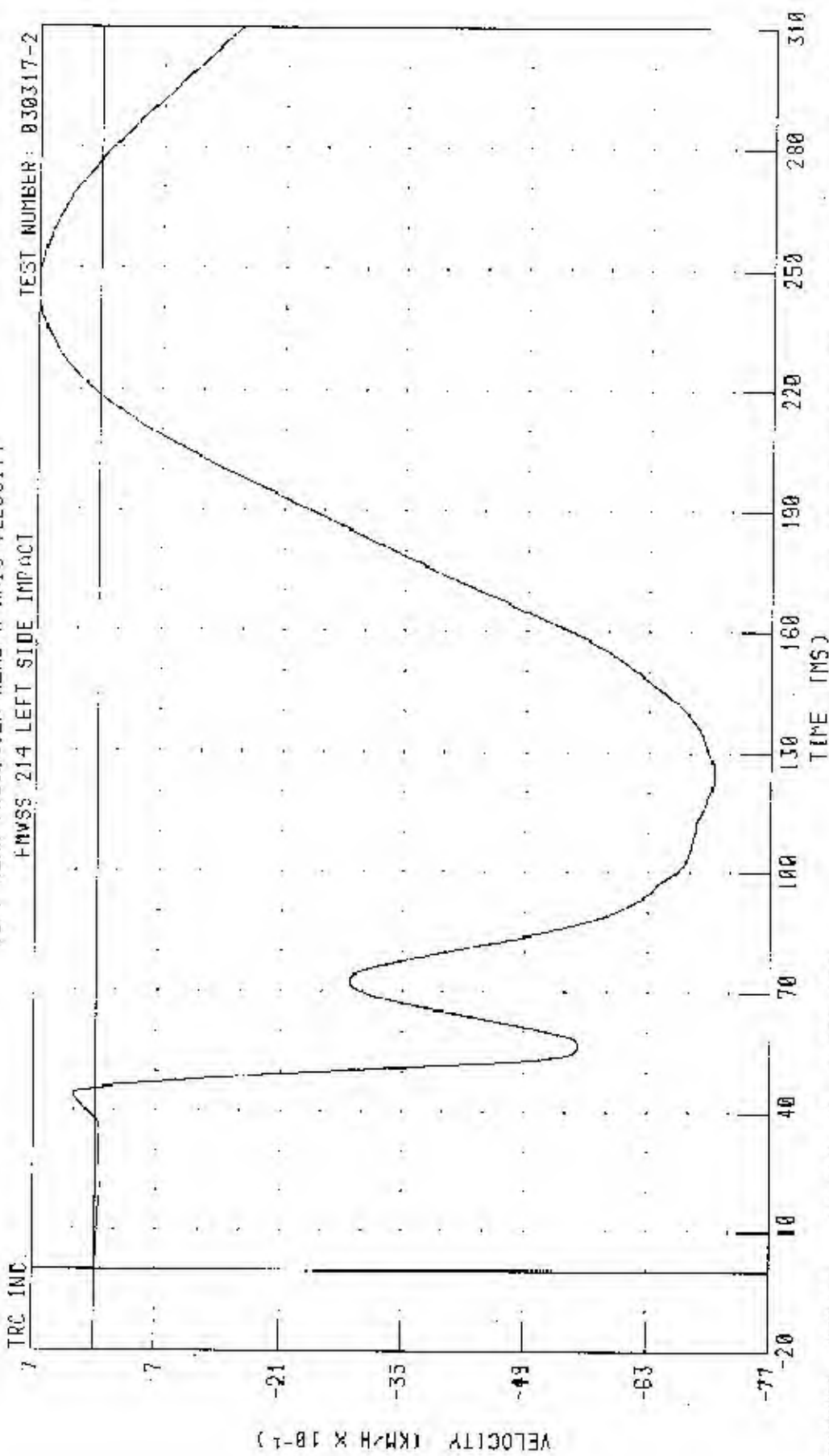


PEAK DATA: 7 66 0 0 66 08 MS, 25 23 6 0 51.12 MS

CHANNEL: HEDX04 FILTER: CF, CLASS 1000



55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 MAZDA 6  
LEFT REAR PASSENGER HEAD X-AXIS VELOCITY



PEAK DATA: 0 71 KM/H @ 244 96 MS, -7 05 KM/H @ 126 08 MS

CHANNEL: HFDXV4 FILTER: CH CLASS: 180

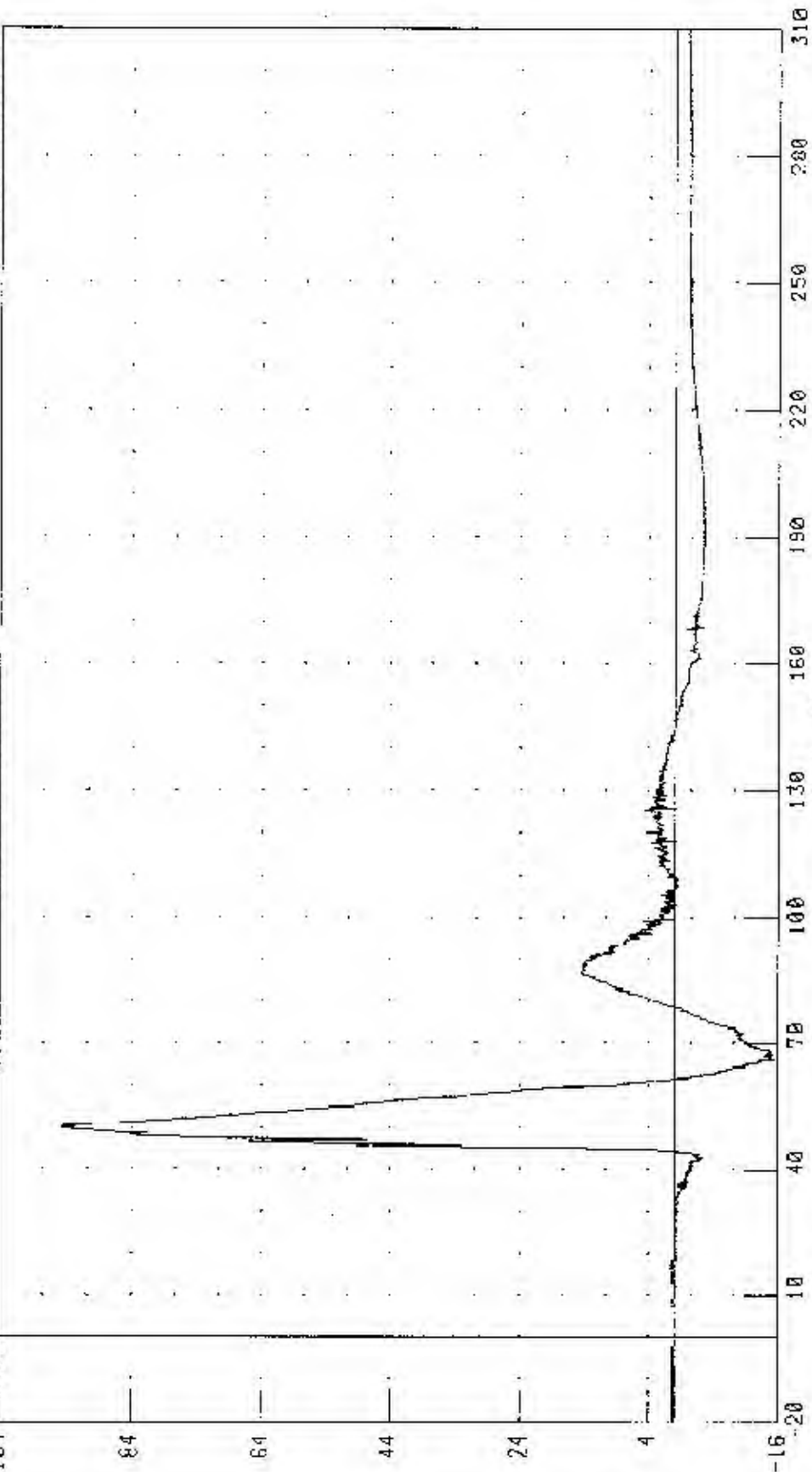
55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 HAZONA 6

LEFT REAR PASSENGER HEAD Y-AXIS ACCELERATION

TEST NUMBER: 030317-2

FMVSS 214 LEFT SIDE IMPACT

TRC IND.



PEAK DATA 94.71 G @ 50.24 MS; -15.30 G @ 66.08 MS

CHANNEL: HEDY04 FILTER: CH. CLASS 1000



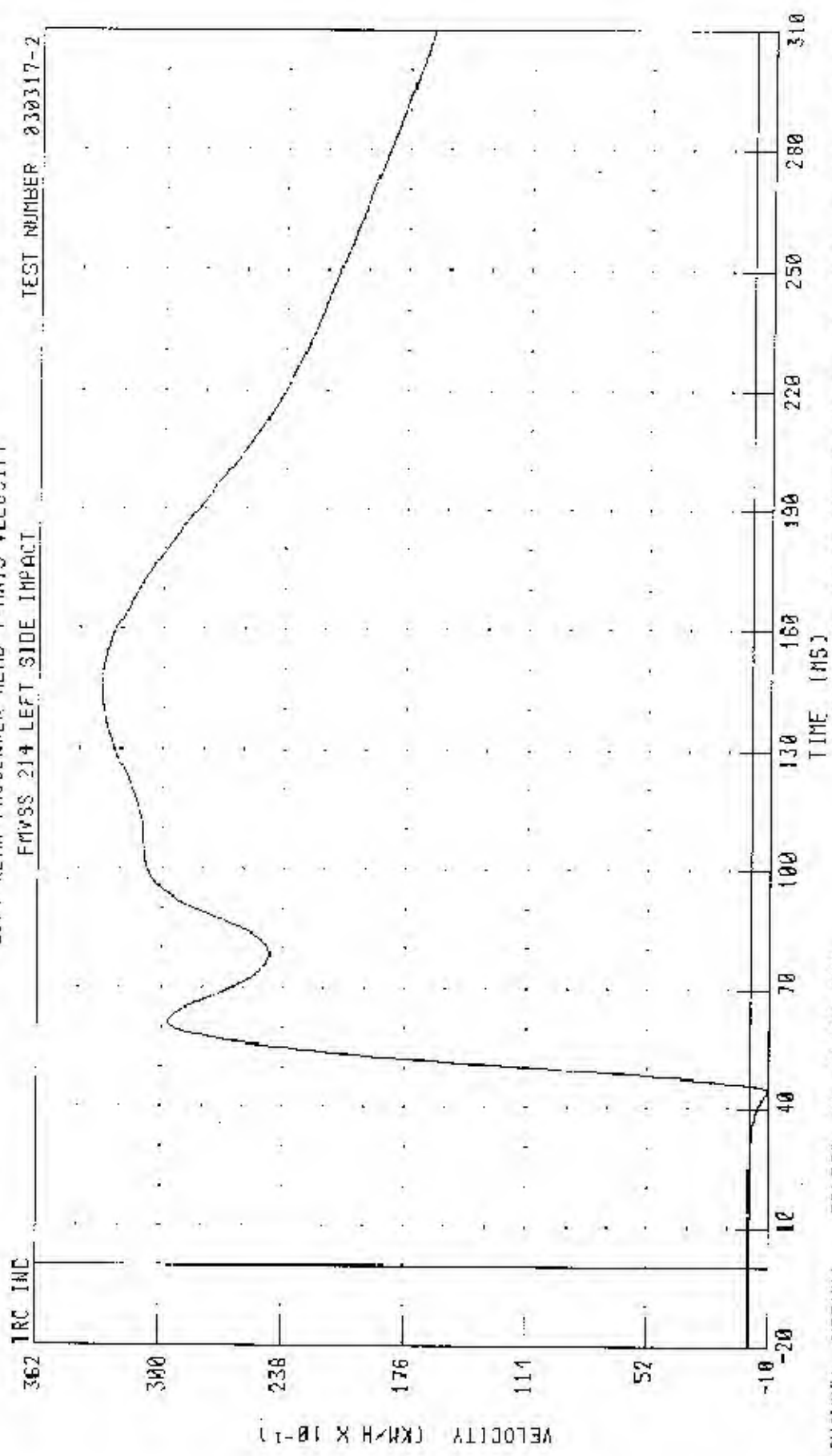
55/28 XPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 MAZDA 6

LEFT REAR PASSENGER HEAD Y-AXIS VELOCITY

1RC IND

FMVSS 214 LEFT SIDE IMPACT

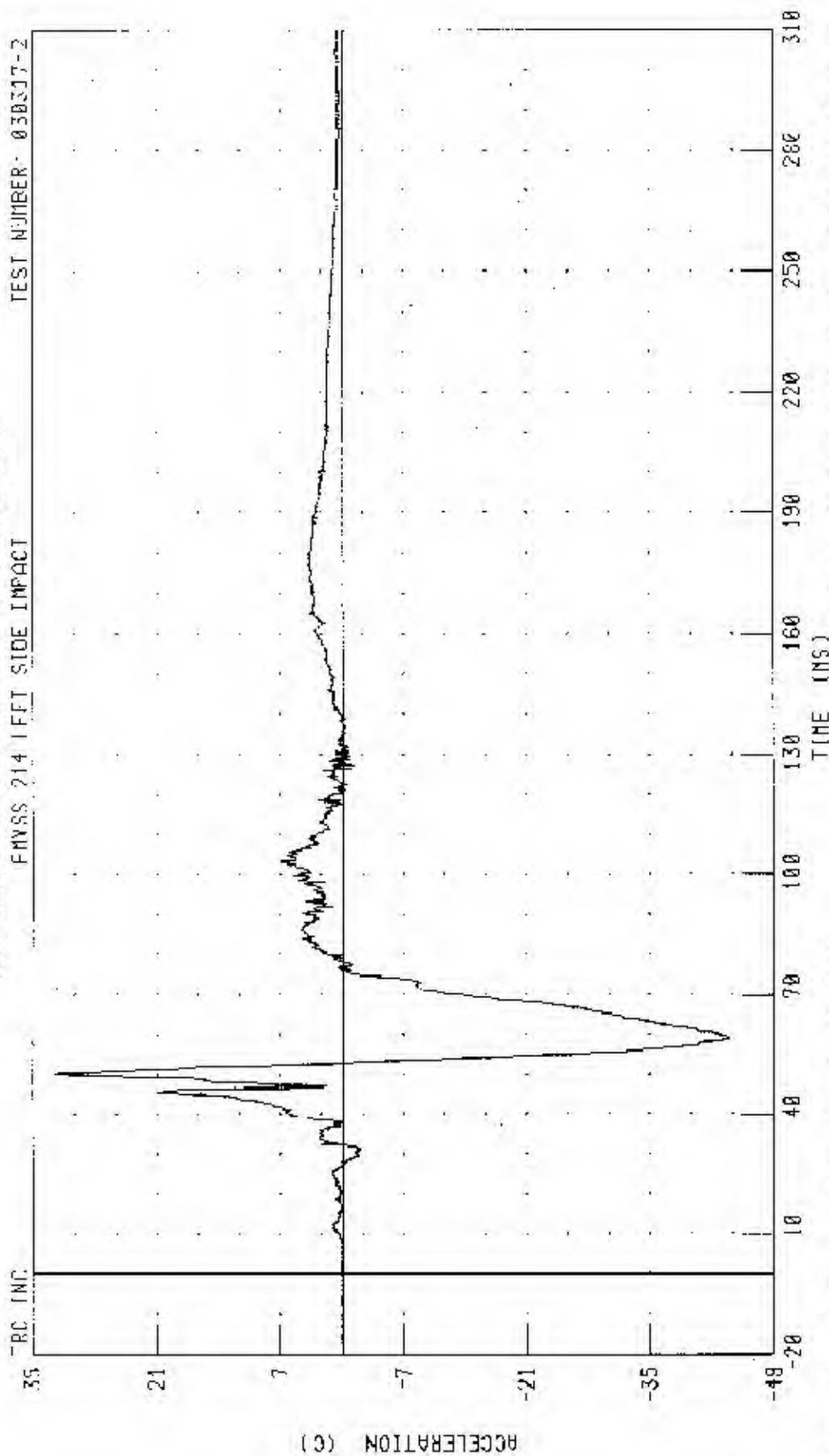
TEST NUMBER 030317-2



CHANNEL: HEDYV4 FILTER CH. CLASS 180

PEAK DATA: 33.03 KM/H @ 146.24 MS; -0.91 KM/H @ 44.48 MS

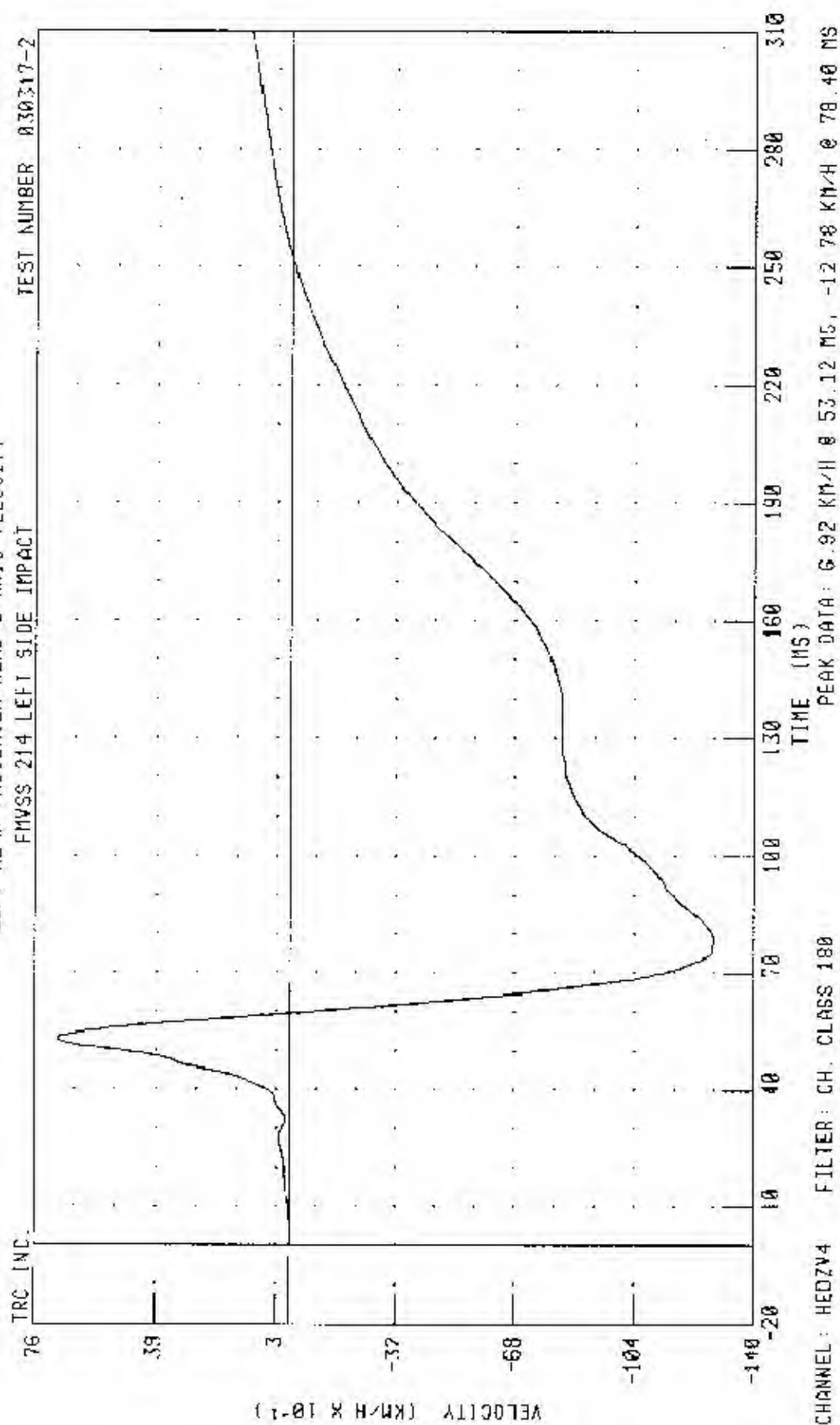
55/20 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 TA20A 6  
LEFT REAR PASSENGER HEAD Z-AXIS ACCELERATION





55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 MAZDA 6

LEFT REAR PASSENGER HEAD Z-AXIS VELOCITY



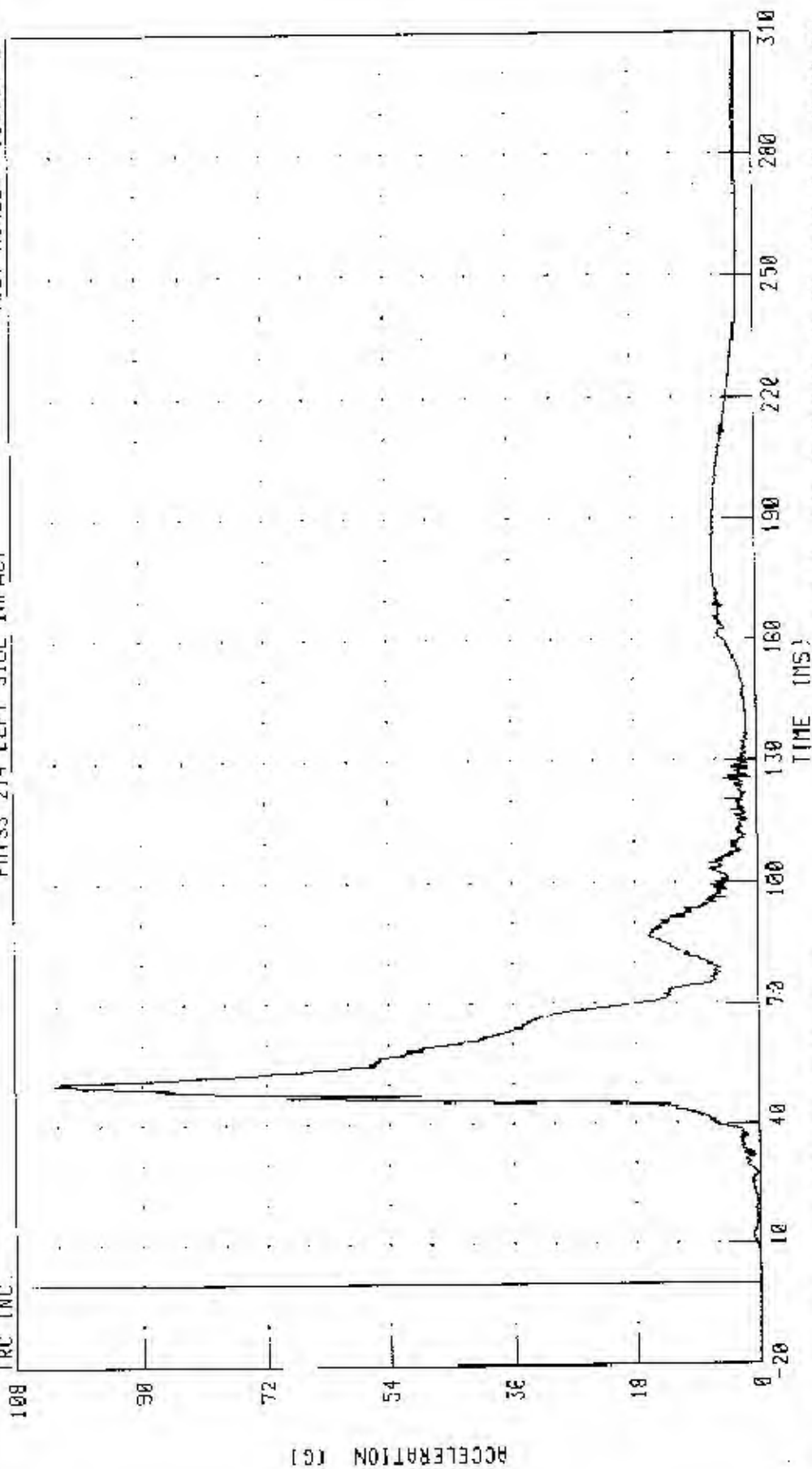
55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 MAZDA 6

LEFT REAR PASSENGER HEAD RESULTANT ACCELERATION

TEST NUMBER: 030317-2

FMVSS 214 LEFT SIDE IMPACT

TRC INC.

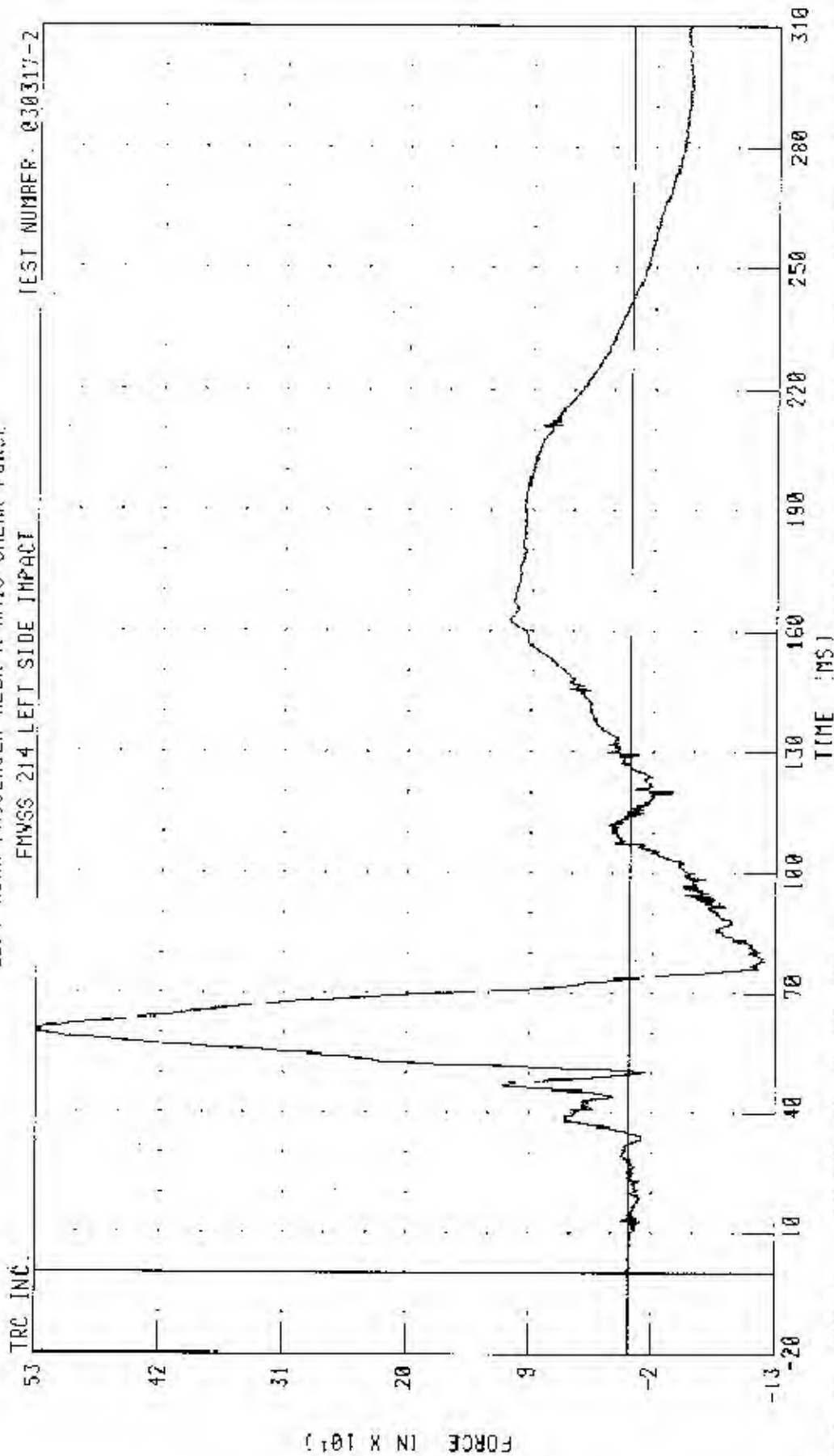


CHANNEL: HEDRC4 FILTER: CH CLASS 1000

PEAK DATA 102.18 G @ 50.24 MS; 0.01 G @ -19.84 MS



55/28 KPII 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 HAZDA 6  
LEFT REAR PASSENGER NECK X-AXIS SHEAR FORCE



CHANNEL: NEKX1-1 FILTER: CH. CLASS 1200

PEAK DATA 553.80 N @ 61.12 MS, -119.72 N @ 78.08 MS

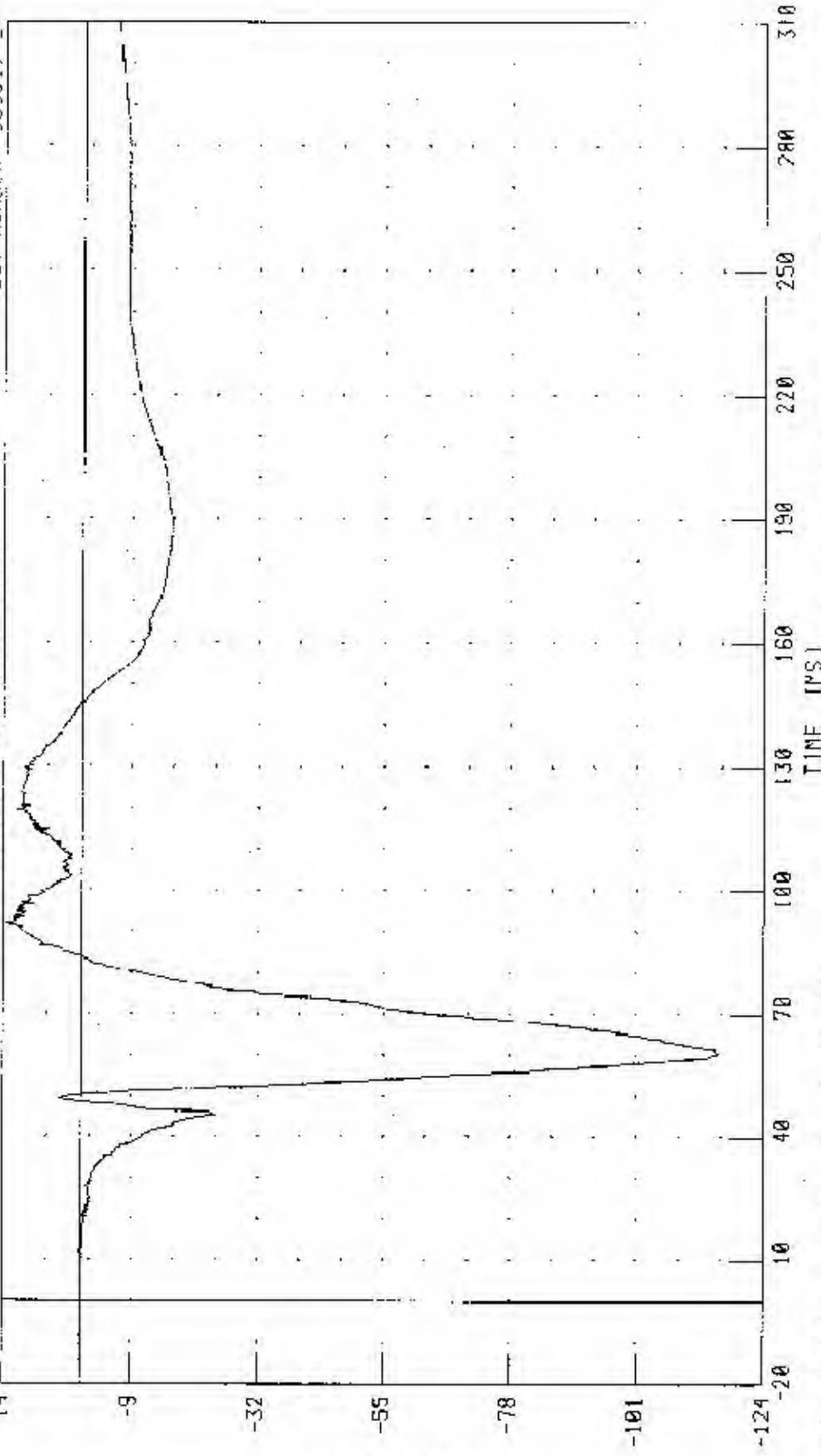
55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 MAZDA 6

LEFT REAR PASSENGER NECK Y-AXIS SHEAR FORCE

TRC INC.

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER 030317-2



TIME (MS)

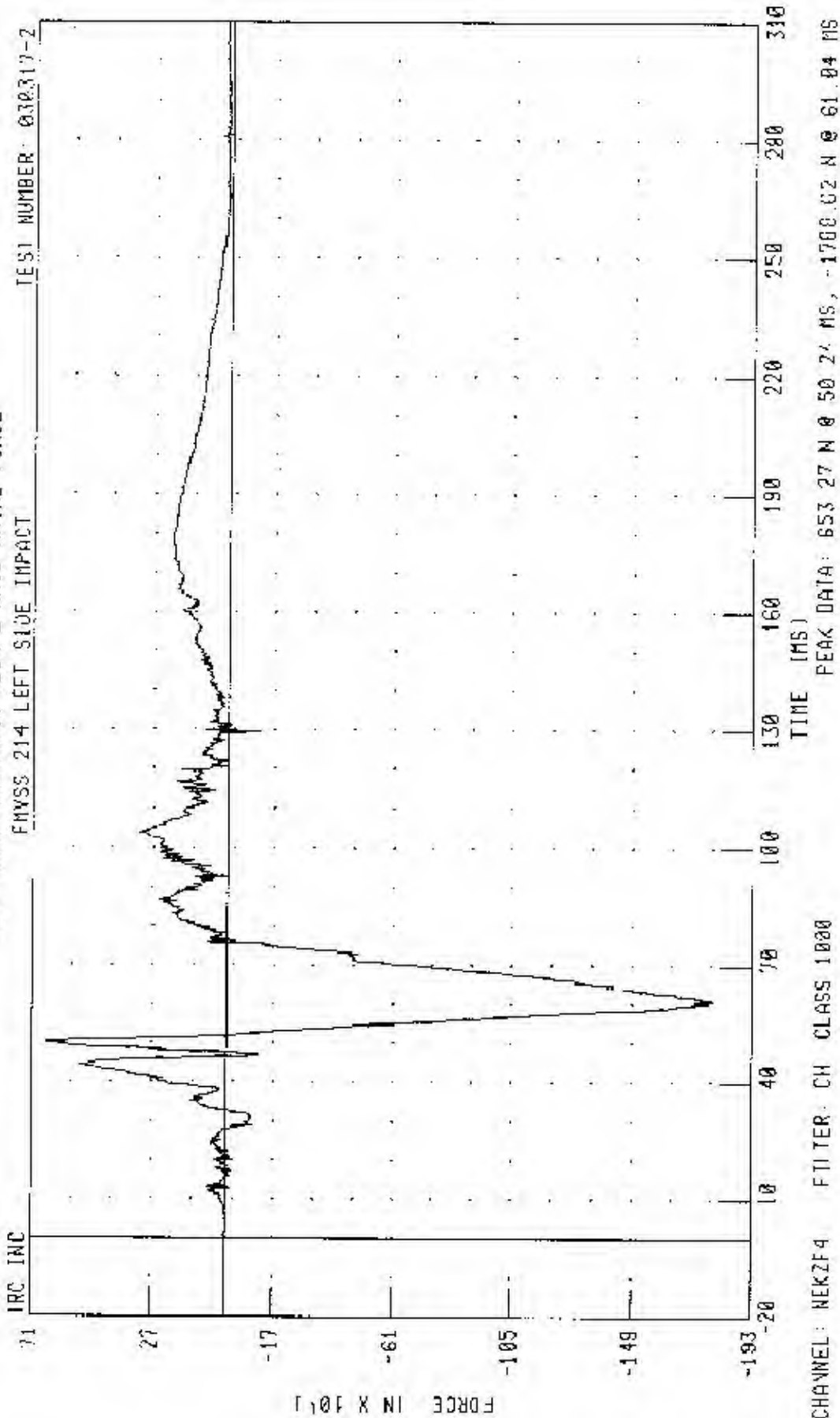
PEAK DATA: 134.88 N @ 92.24 MS; -1159.21 N @ 60.48 MS

CHANNEL: NEKYF4 FILTER: CH CLASS 1000



55/20 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 MAZDA 6

LEFT REAR PASSENGER NECK Z-AXIS AXIAL FORCE

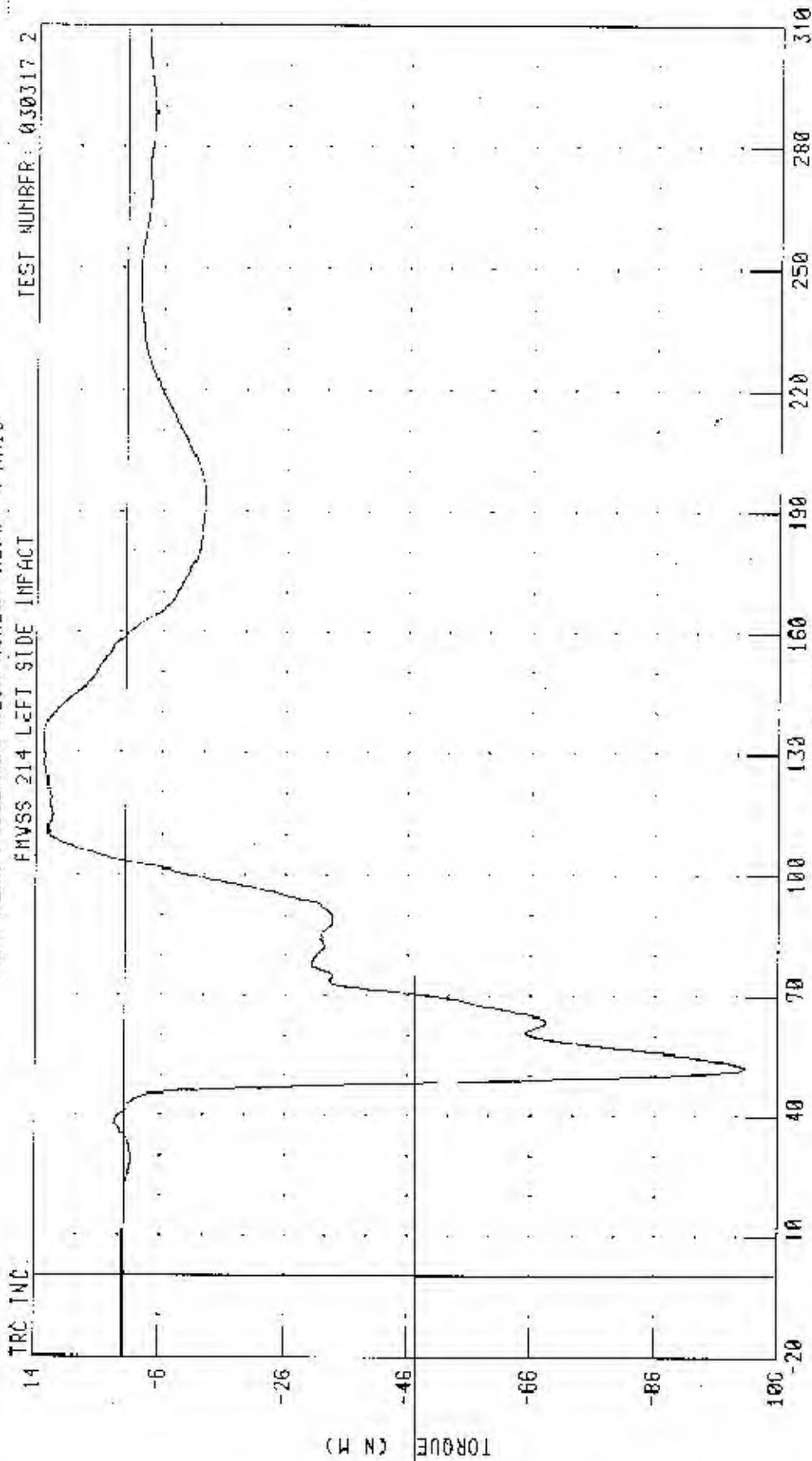


55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BAR) INTO LEFT SIDE OF 2003 MAZDA 6

LEFT REAR PASSENGER NECK MOMENT ABOUT X AXIS

TEST NUMBER: 030317-2

FMVSS 214 LEFT SIDE IMPACT



TIME (MS)

CHANNEL: NEKXN2 FILTER: CH. CLASS 600

PEAK DATA 12 03 N M @ 133 04 MS; -100 84 N M @ 52 16 MS

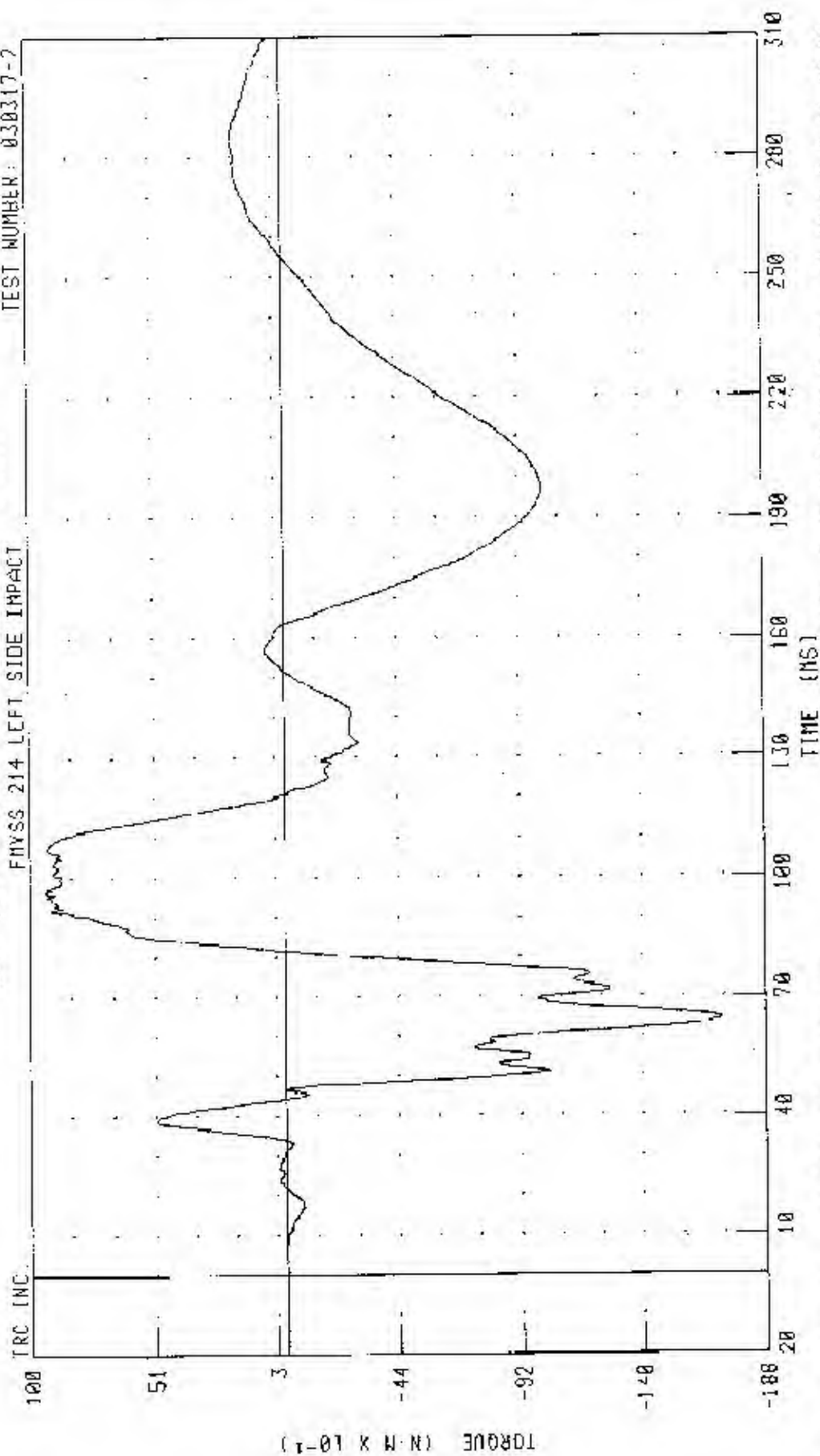


55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 MAZDA 6

LEFT REAR PASSENGER NECK MOMENT ABOUT Y AXIS

FNVS 214 LEFT SIDE IMPACT

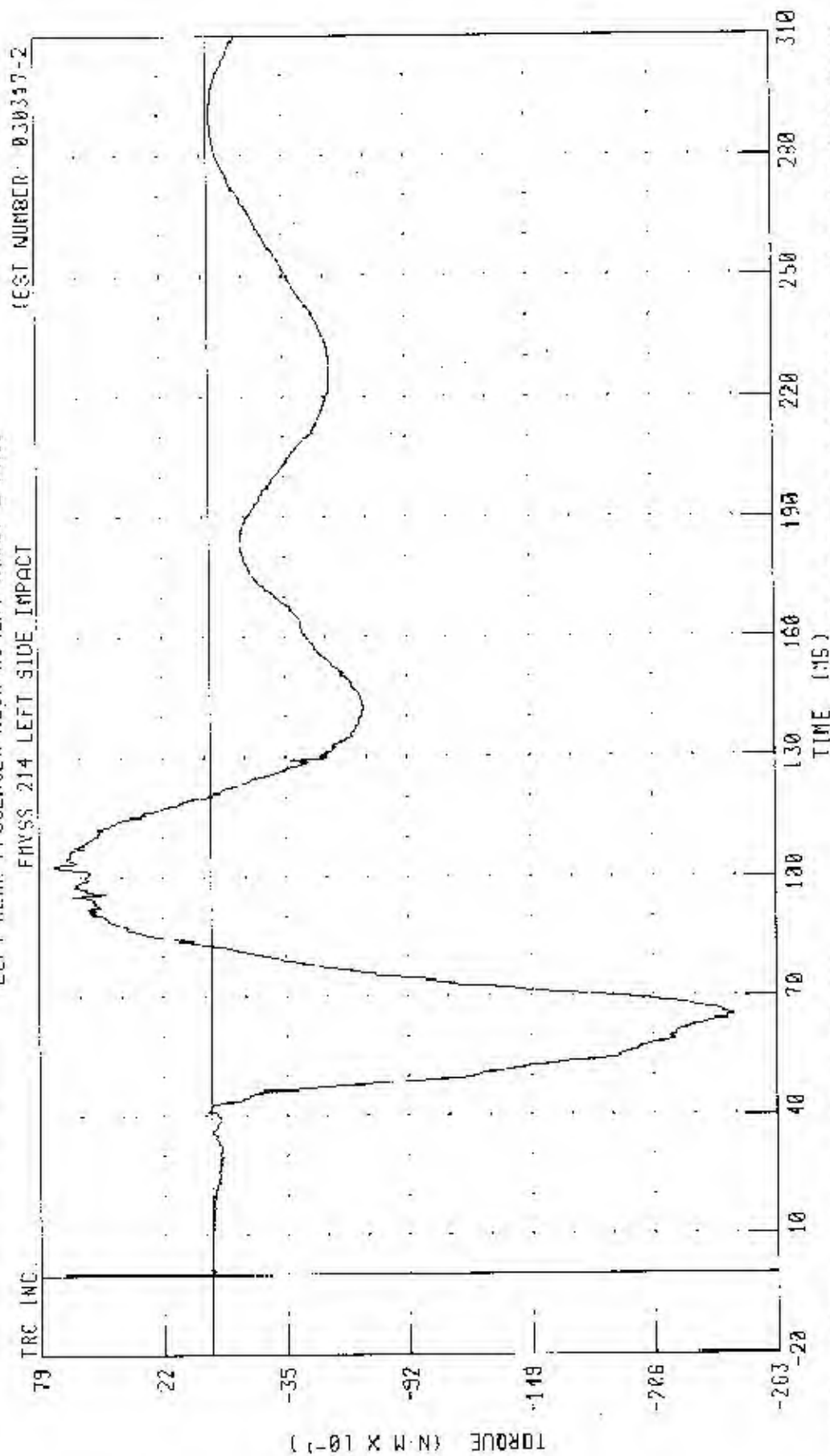
TEST NUMBER: 030317-2



PEAK DATA: 9 45 N M @ 96 40 MS, -17.12 N M @ 64 40 MS

CHANNEL: NEKYM4 FILTER: CH. CLASS 800

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 MAZDA 6  
 LEFT REAR PASSENGER NECK MOMENT ABOUT Z AXIS



CHANNEL: NEKZ14 FILTER: CH. CLASS 600

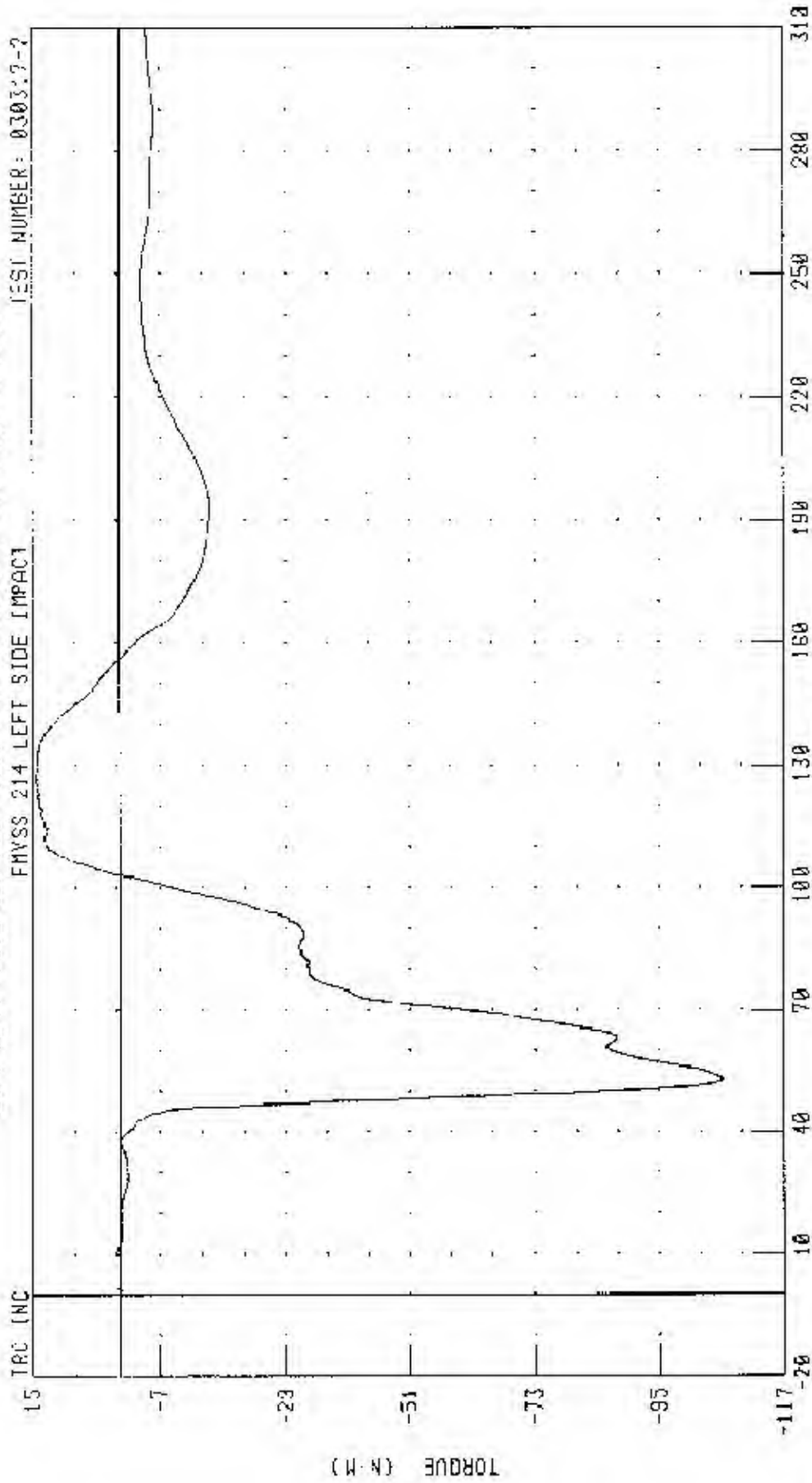


55.28 MPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) (MID LEFT SIDE OF 2003 MAZDA 6

LEFT REAR PASSENGER NECK OCCUPANTAL CONDOYLE MOMENT ABOUT X AXIS

PHYSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030317-2



TIME (MS)

PEAK DATA: 14.46 N-M @ 127.12 MS, -106.23 N-M @ 53.12 MS

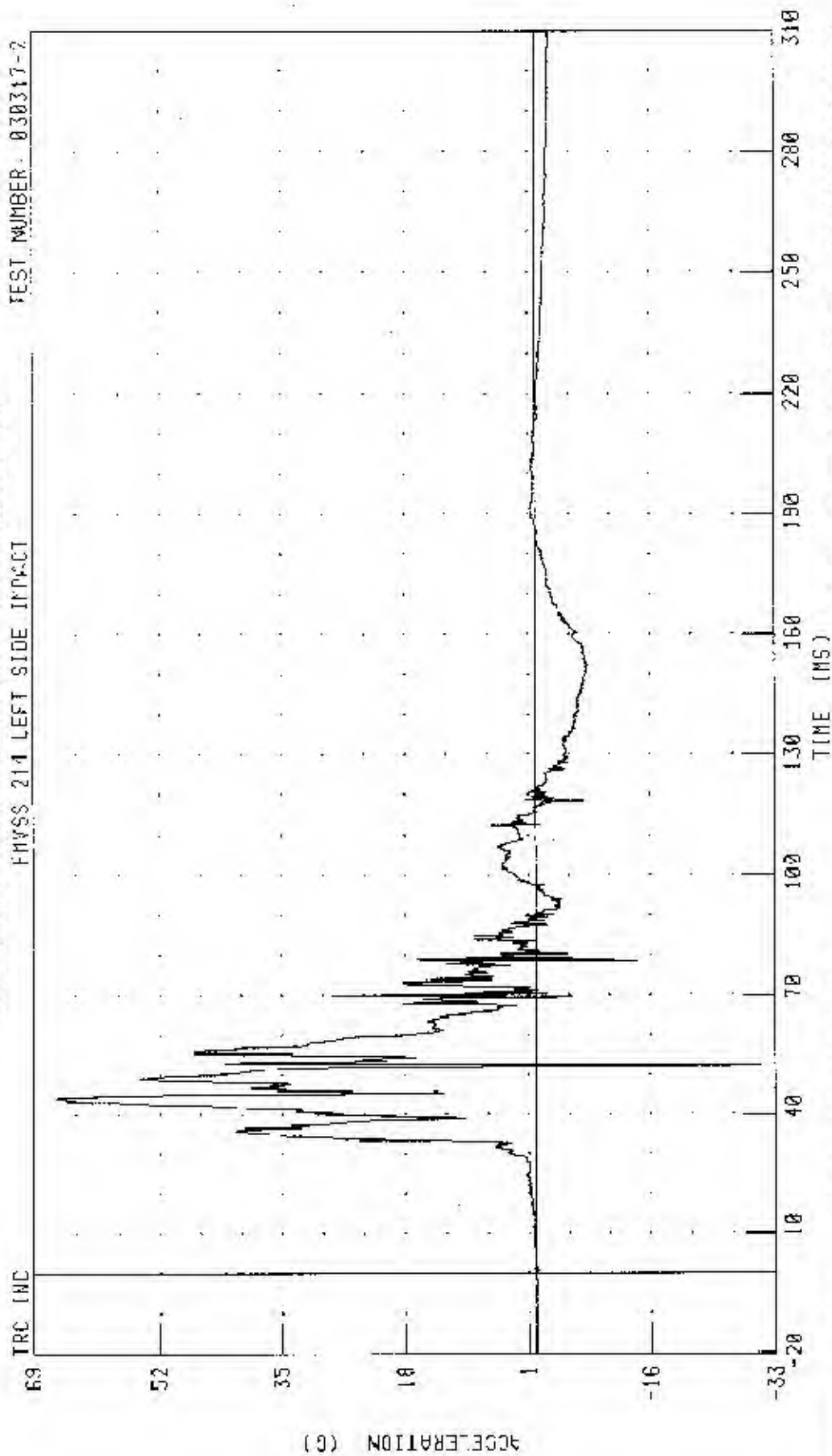
CHANNEL: NK0XM4 FILTER: CH. CLASS 600

55/28 KPH 90 DEGREE SIDE IMPACT MOVING DEFORMABLE BARRIER INTO LEFT SIDE OF 2003 MAZDA 6

LEFT REAR PASSENGER UPPER RIB X-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030317-2



CHANNEL: LURY04 FILTER: CH. CLASS 1000

PEAK DATA 65.95 G @ 44.32 MS: -30.90 G @ 52.56 MS



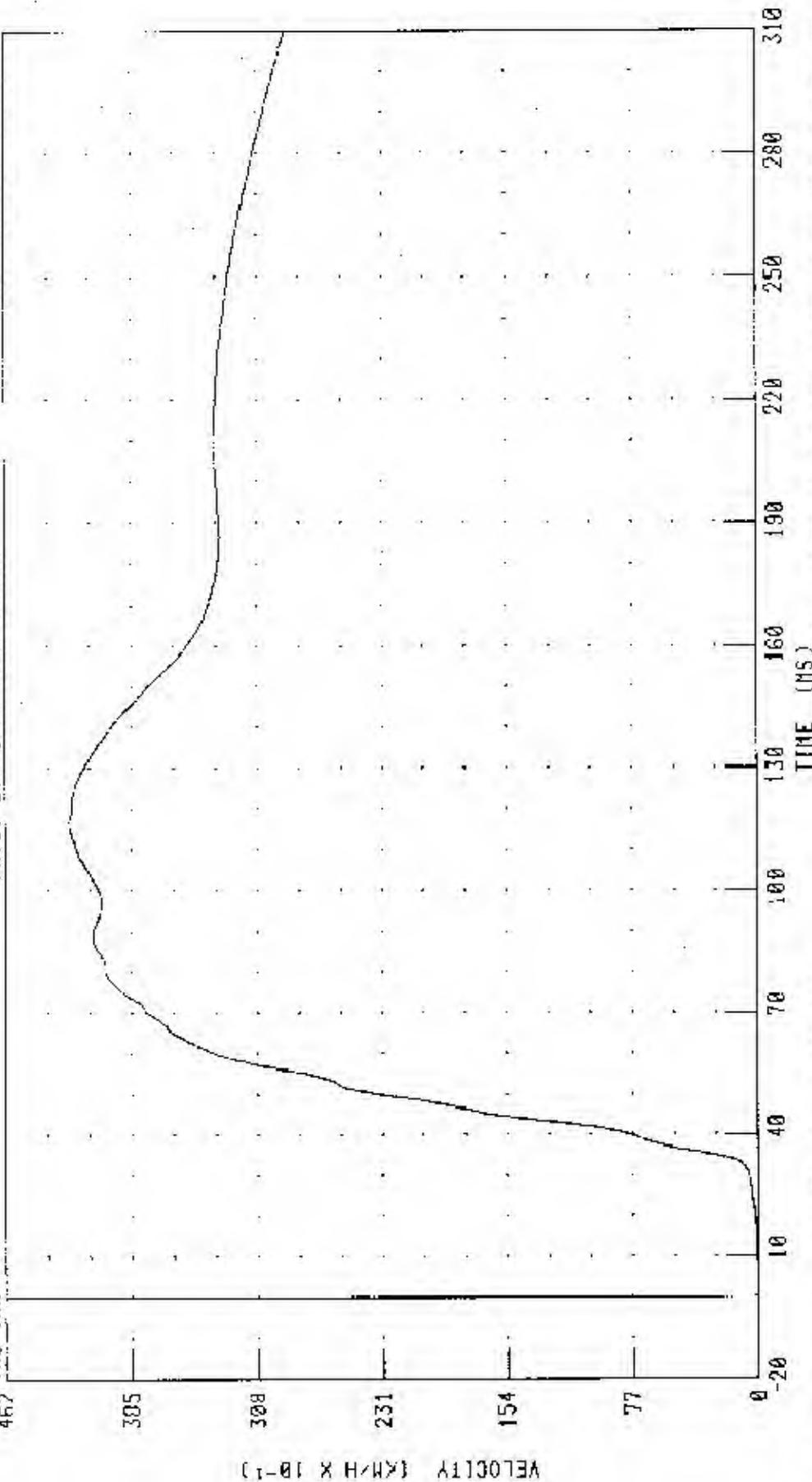
55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 MAZDA 6

LEFT REAR PASSENGER UPPER RIB Y-AXIS VELOCITY

ENVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030317-2

TRC INC



CHANNEL: LURYY4 FILTER: CH CLASS 130

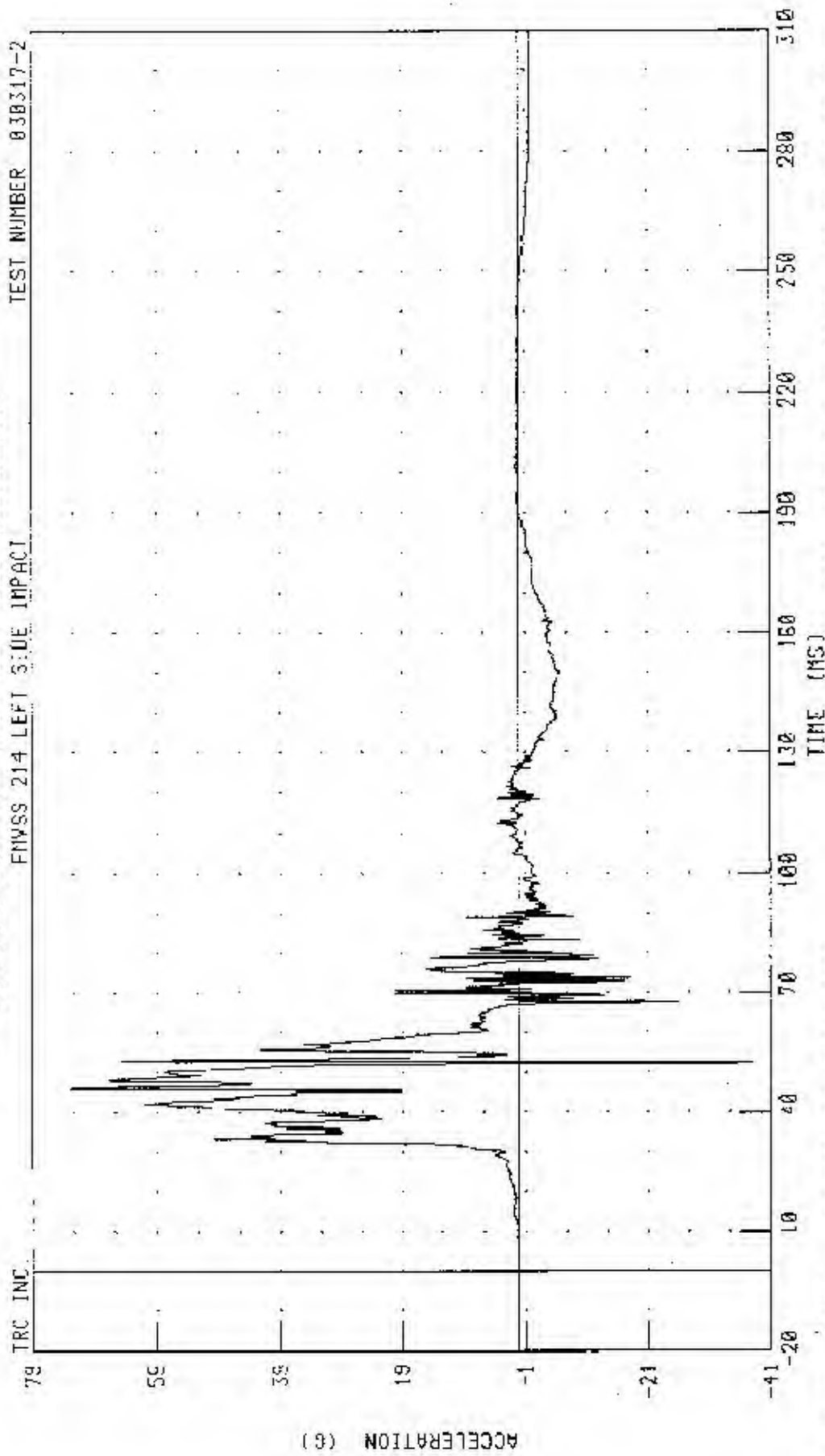
PEAK DATA: 42.29 KM/H @ 136.48 MS; 0.00 KM/H @ 1.20 MS

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 MAZDA 6

LEFT REAR PASSENGER LOWER R13 Y-AXIS ACCELERATION

TEST NUMBER 030317-2

FMVSS 214 LEFT SIDE IMPACT



CHANNEL: LLRYG4 FILTER: CH CLASS 1000

PEAK DATA: 72.87 G @ 43.00 MS, 37.70 G @ 52.50 MS



55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 MAZDA 6

LEFT REAR PASSENGER LOWER RIB Y-AXIS VELOCITY

TRC INC.

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030317-2

VELOCITY (KM/H X 10<sup>-1</sup>)

TIME (MS)

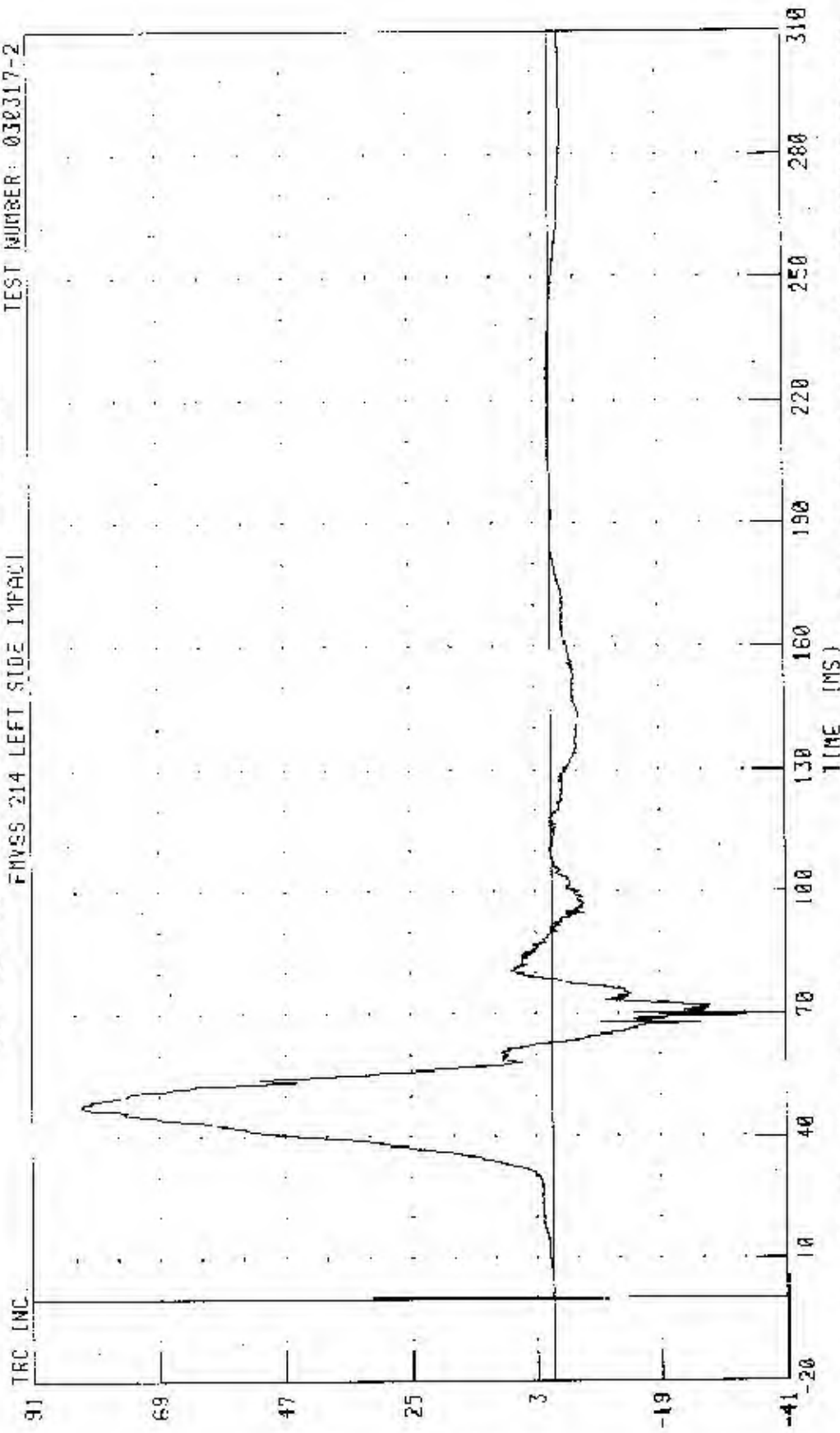
CHANNEL: LLRYV4 FILTER: CH. CLASS 100

PEAK DATA: 40 28 KM/H @ 89 12 MS, 0 00 KM/H @ 2.00 RS

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 HAZDA 6  
 LEFT REAR PASSENGER LOWER SPINE Y AXIS ACCELERATION

TEST NUMBER: 030317-2

FMVSS 214 LEFT SIDE IMPACT



PEAK DATA: 82.73 G @ 47.60 MS; -37.90 G @ 70.08 MS

CHANNEL: T12Y64 FILTER: CH. CLASS 1000

ACCELERATION (G)

030317-2

B-50



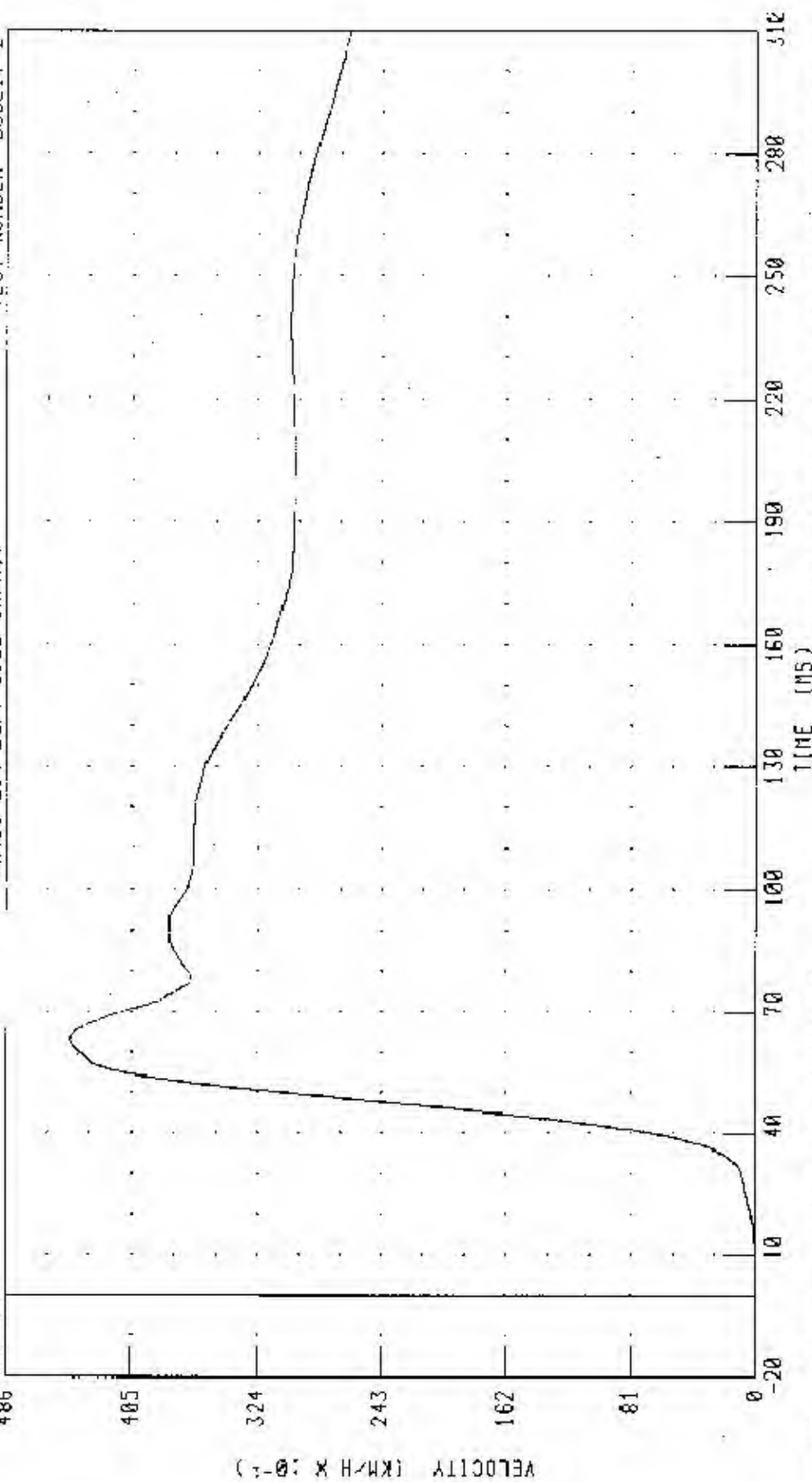
55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 700X MA70A 6

LEFT REAR PASSENGER LOWER SPINE Y AXIS VELOCITY

TRC INC.

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030317-2

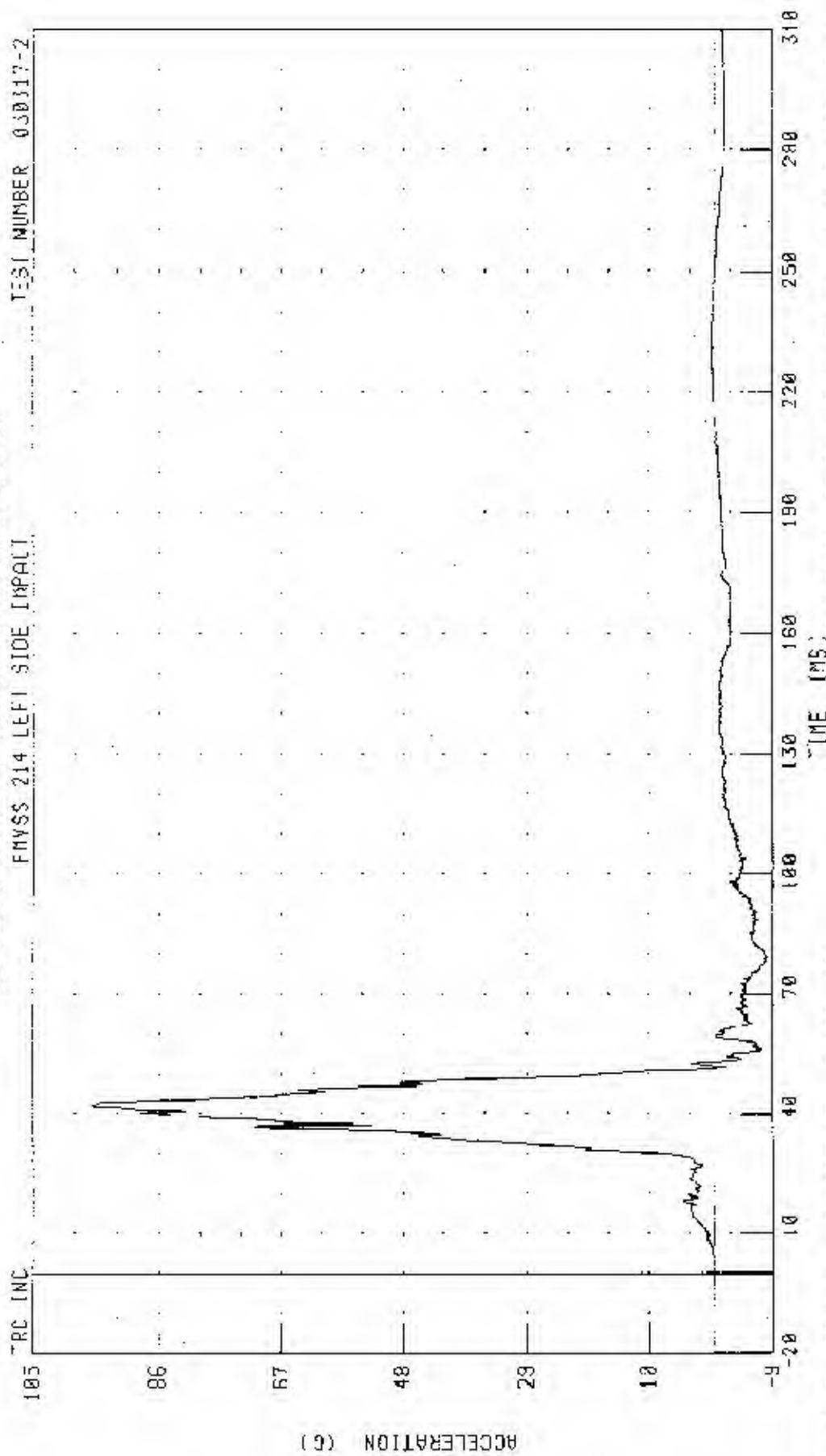


CHANNEL: T12YV4 FILTER CH: CLASS 100

PEAK DATA: 44 49 KM/H @ 63 12 MS, 0 00 KM/H @ 0 00 MS

55/28 MPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) (N) LEFT SIDE OF 2003 MAZDA 6

LEFT REAR PASSENGER PELVIS Y AXIS ACCELERATION



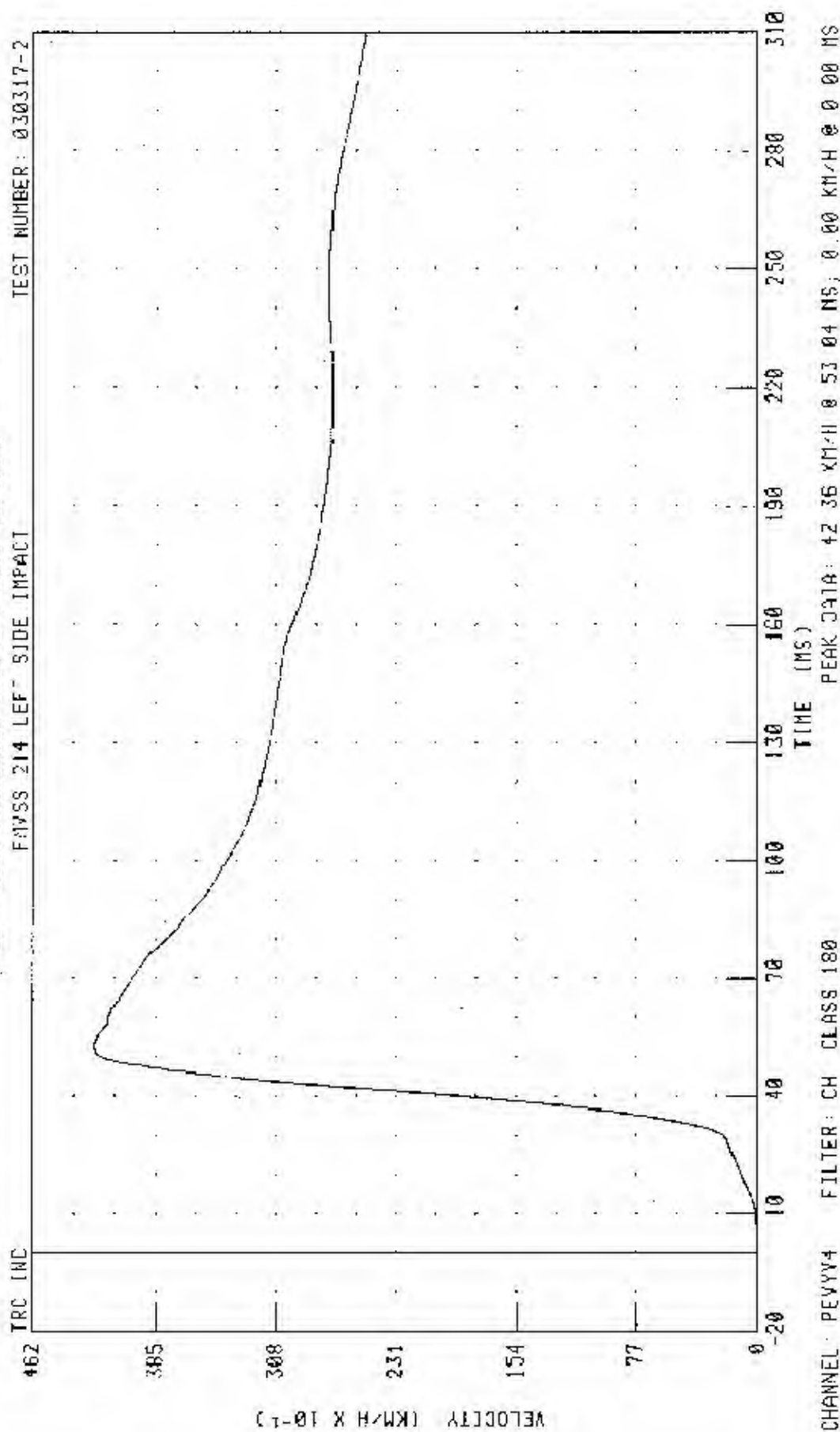
CHANNEL PEVY64 FILTER CH. CLASS 1000

PEAK DATA: 96.02 G @ 42.08 MS; -8.21 G @ 79.44 MS



55/28 KPH 90 DEGREE SIDE IMPACT (MOVING OFFFORMARIF BARRIER) INTO LEFT SIDE OF 2003 MAZDA 6

LEFT REAR PASSENGER PELVIS Y-AXIS VELOCITY



Driver and Passenger Dummy Instrumentation Plots

Acceleration Data - Filter Class 1000 - Redundant

Integration Data - Filter Class 180 - Redundant



55.28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 MAZDA 6

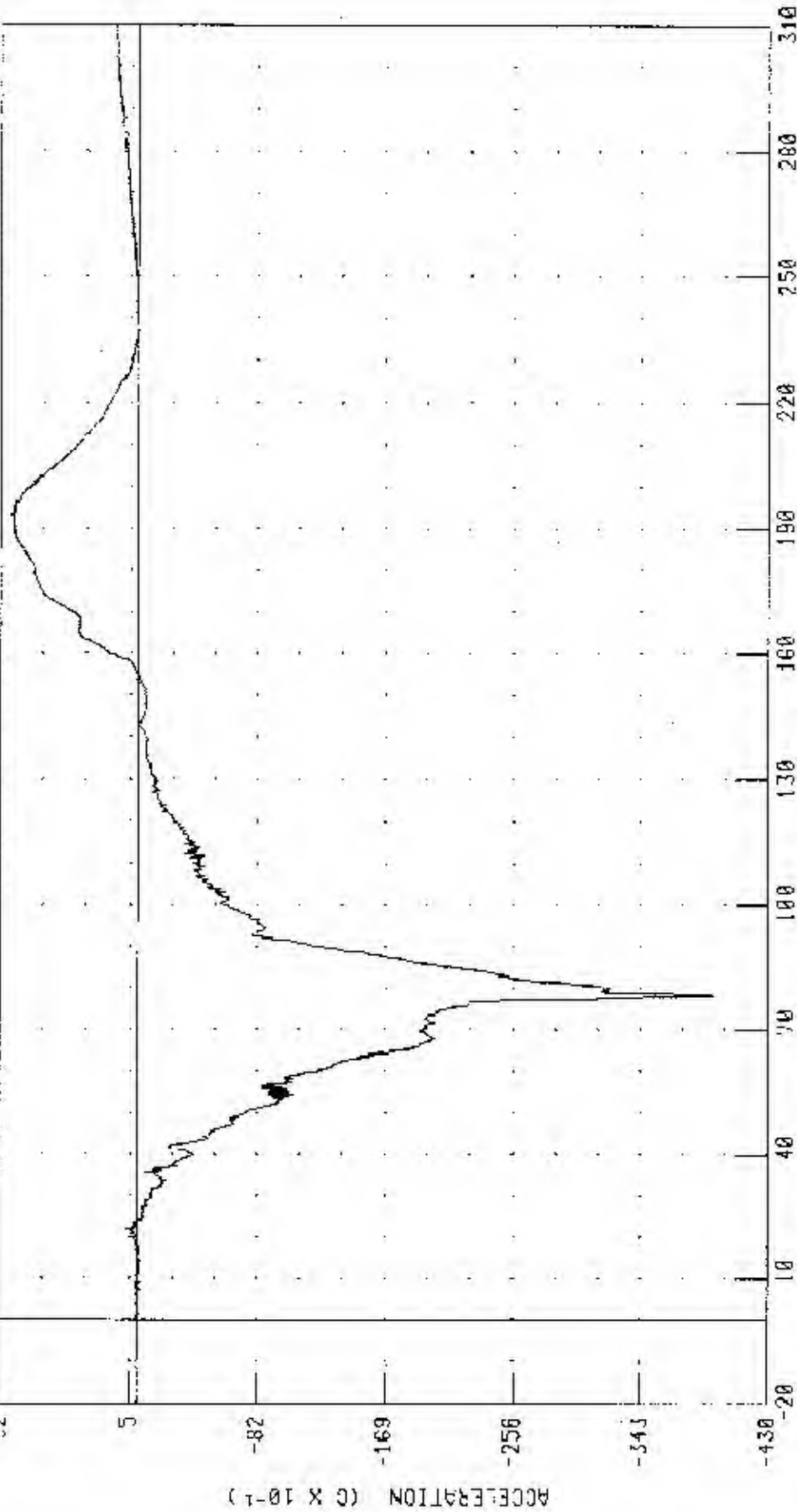
DRIVER HEAD X-AXIS REDUNDANT ACCELERATION

TEST NUMBR. 030317-2

FMVSS 214 LEFT SIDE IMPACT

IRC INC

52



TIME (MS)

PEAK DATA 6 45 G @ 193 36 MS, -39 22 G @ 78 32 MS

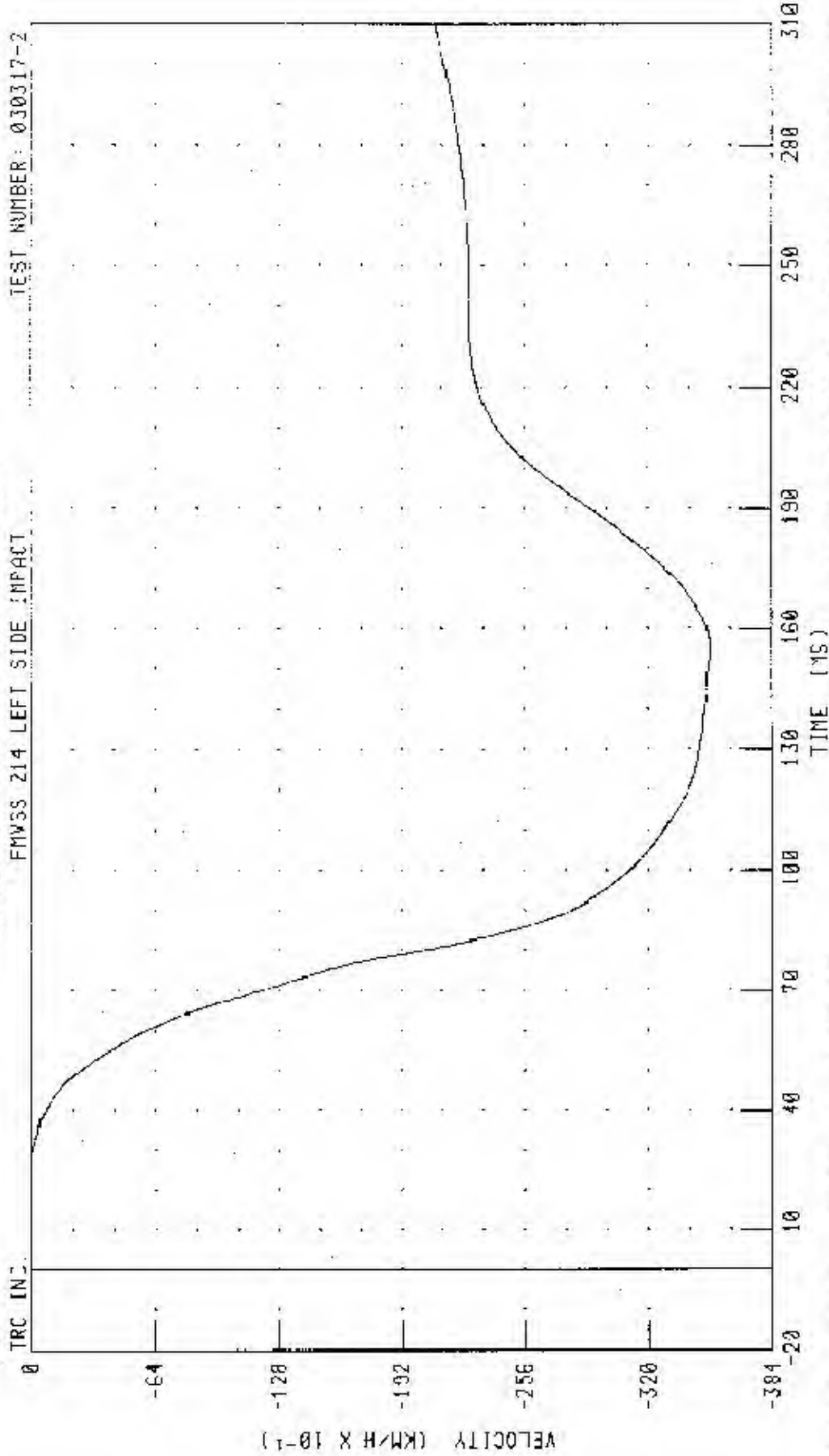
CHANNEL: HEDXR1 FILTER: CIL CLASS 1000

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 MAZDA 6

DRIVER HEAD X AXIS REDUNDANT VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030317-2



CHANNEL: HFDXVI FILTER CH. CLASS 180

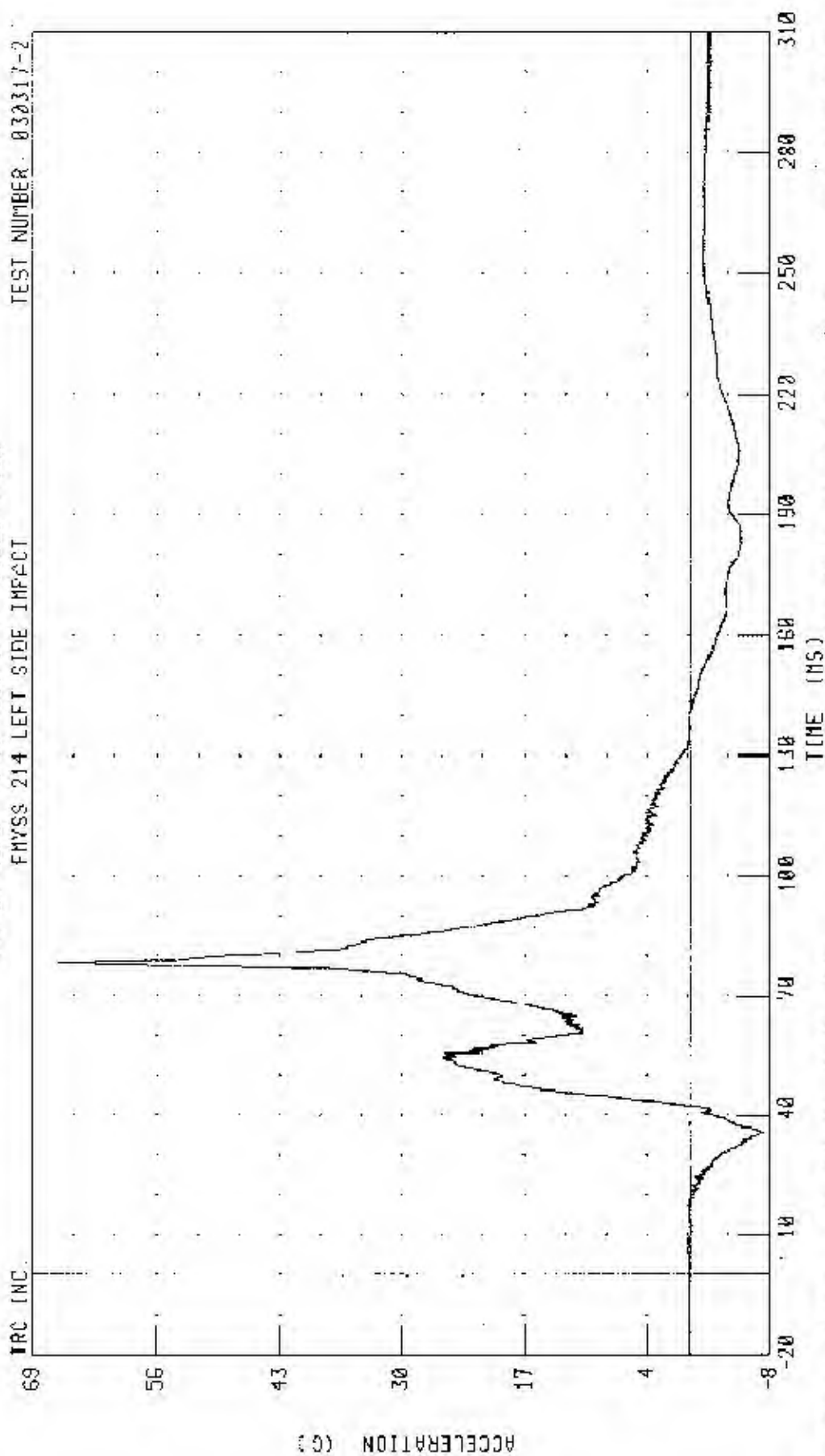
PEAK DATA: 0 02 KM/H @ 23 76 MS; -35 15 KM/H @ 155 12 MS

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 MAZDA 6

DRIVER HEAD Y-AXIS REDUNDANT ACCELERATION

PHYSS 214 LEFT SIDE IMPACT

TEST NUMBER 030317-2



CHANNEL HEDVR1 FILTER CH. CLASS 1000

PEAK DATA: 66.82 G @ 78.40 MS, -7.68 G @ 35.84 MS

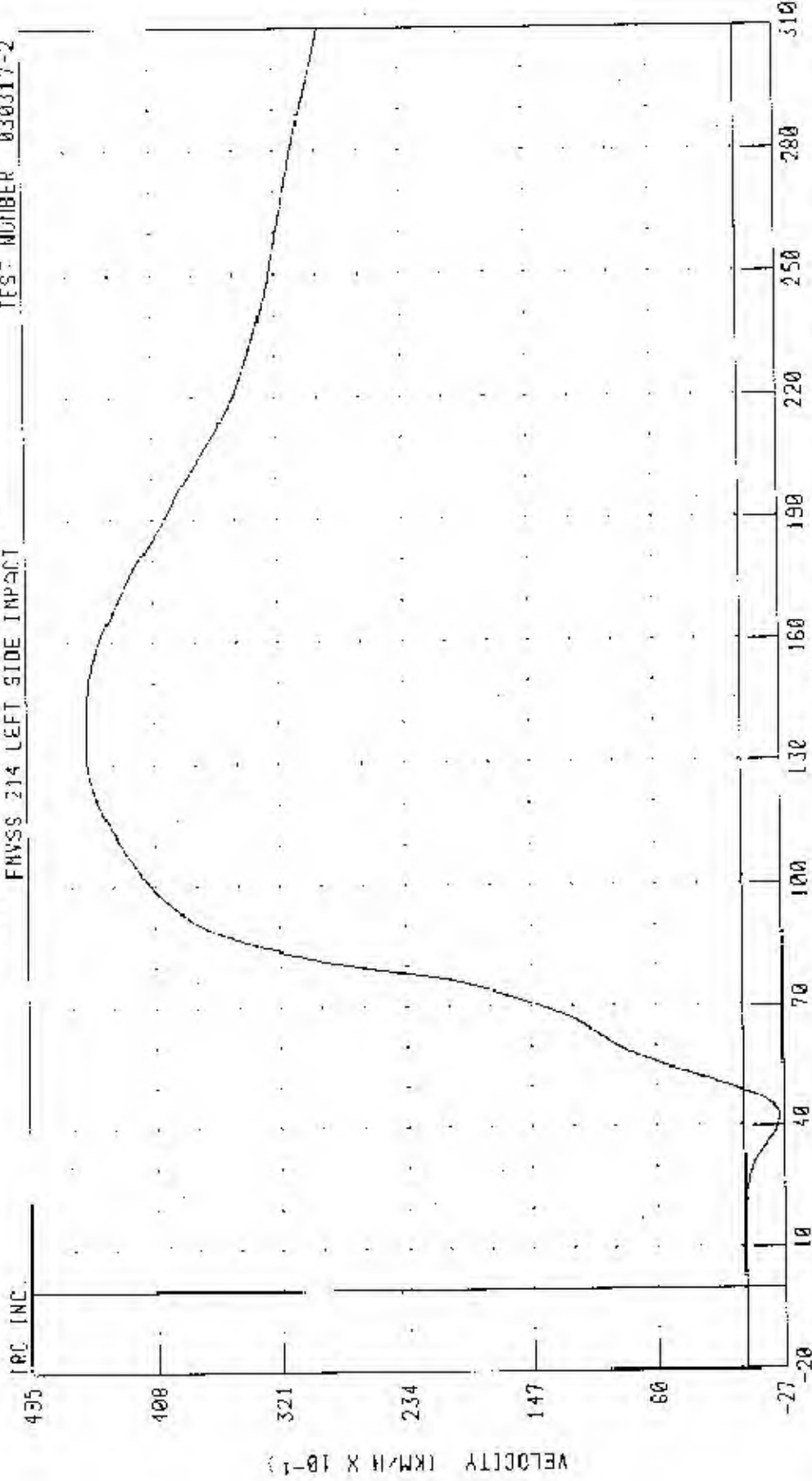


55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 MAZDA 6

DRIVER HEAD Y AXIS REDUCANT VELOCITY

TEST NUMBER 030317-2

FMVSS 214 LEFT SIDE IMPACT



CHANNEL: HEDYVI FILTER: CH CLASS 180

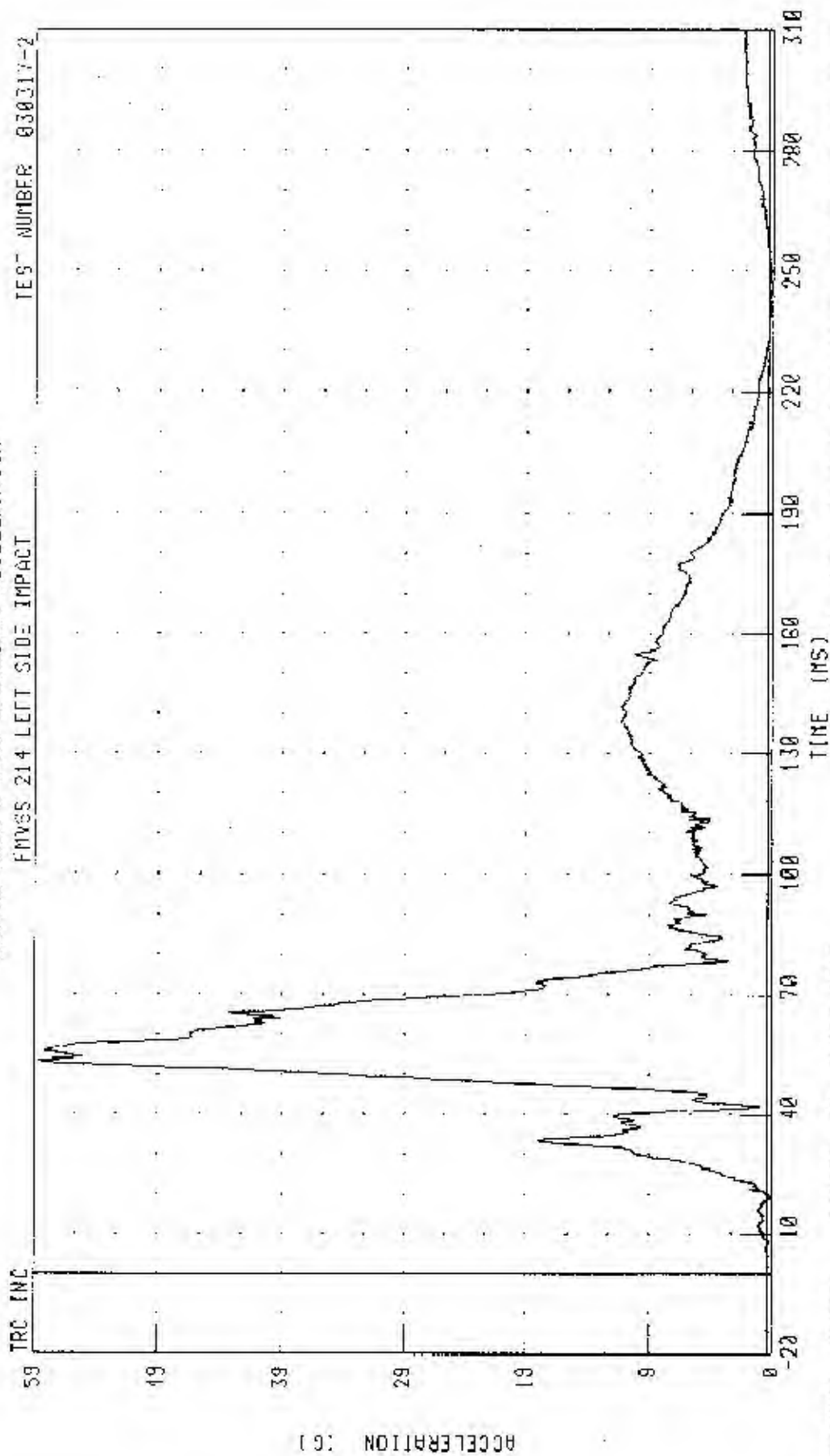
PEAK DATA: 45.48 KPH X 10-1 133.52 MS -2.49 KPH X 10-1 42.48 MS

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 NADA 6

DRIVER HEAD Z-AXIS RESONANT ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER 030317-2



CHANNEL: HEADZ1 FILTER: CH. CLASS 1000

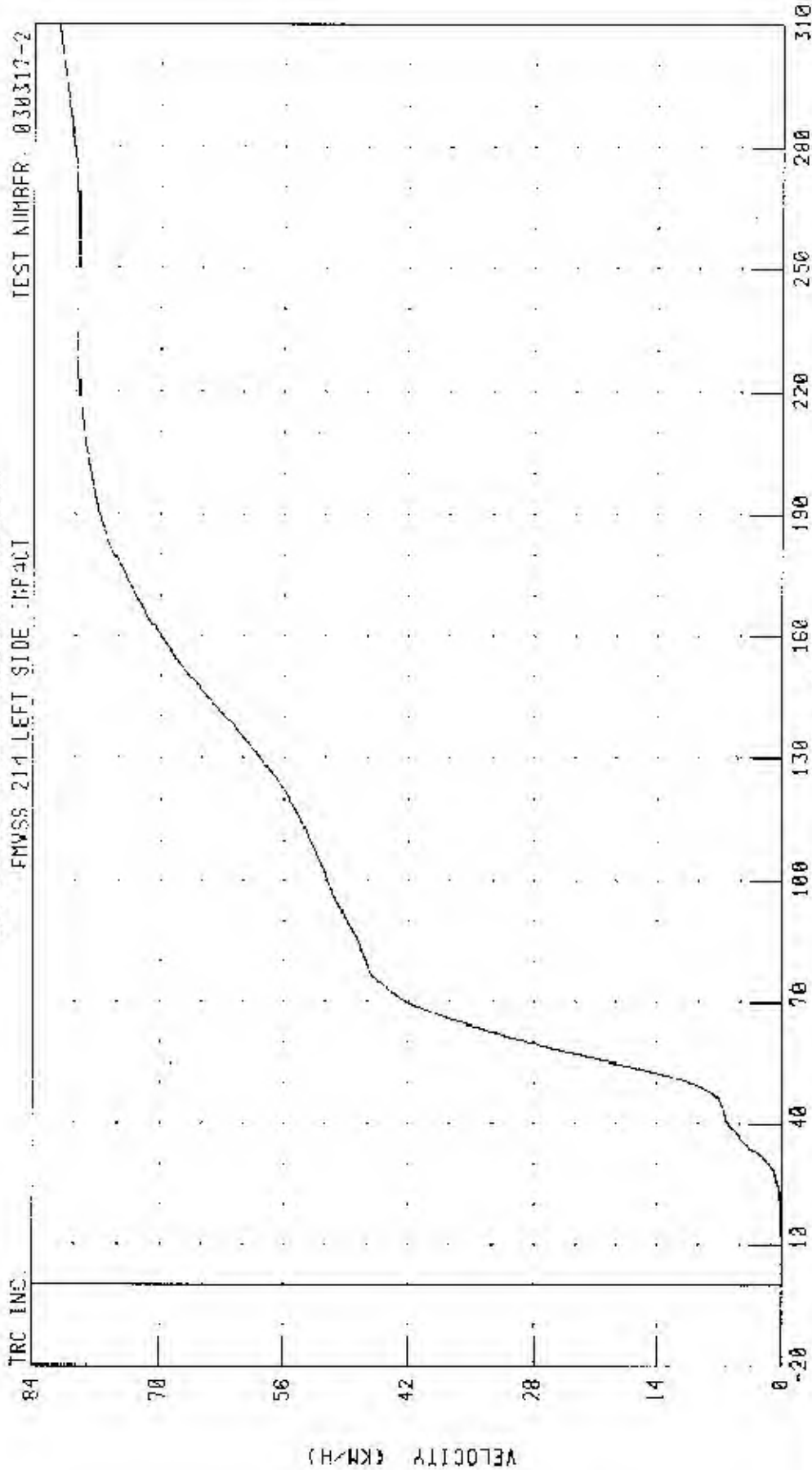
PEAK DATA: 59.26 G @ 53.44 MS, -0.38 G @ 240.72 MS

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 7003 MAZDA 6

DRIVER SEAT Z-AXIS REDUNDANT VELOCITY

TEST NUMBER: 030317-2

FMVSS 214 LEFT SIDE IMPACT



CHANNEL: HEDZYC FILTER: CH. CLASS: 100 PEAK DATA: 81.26 KM/H @ 110.00 MS; 0.00 KM/H @ 3.60 MS



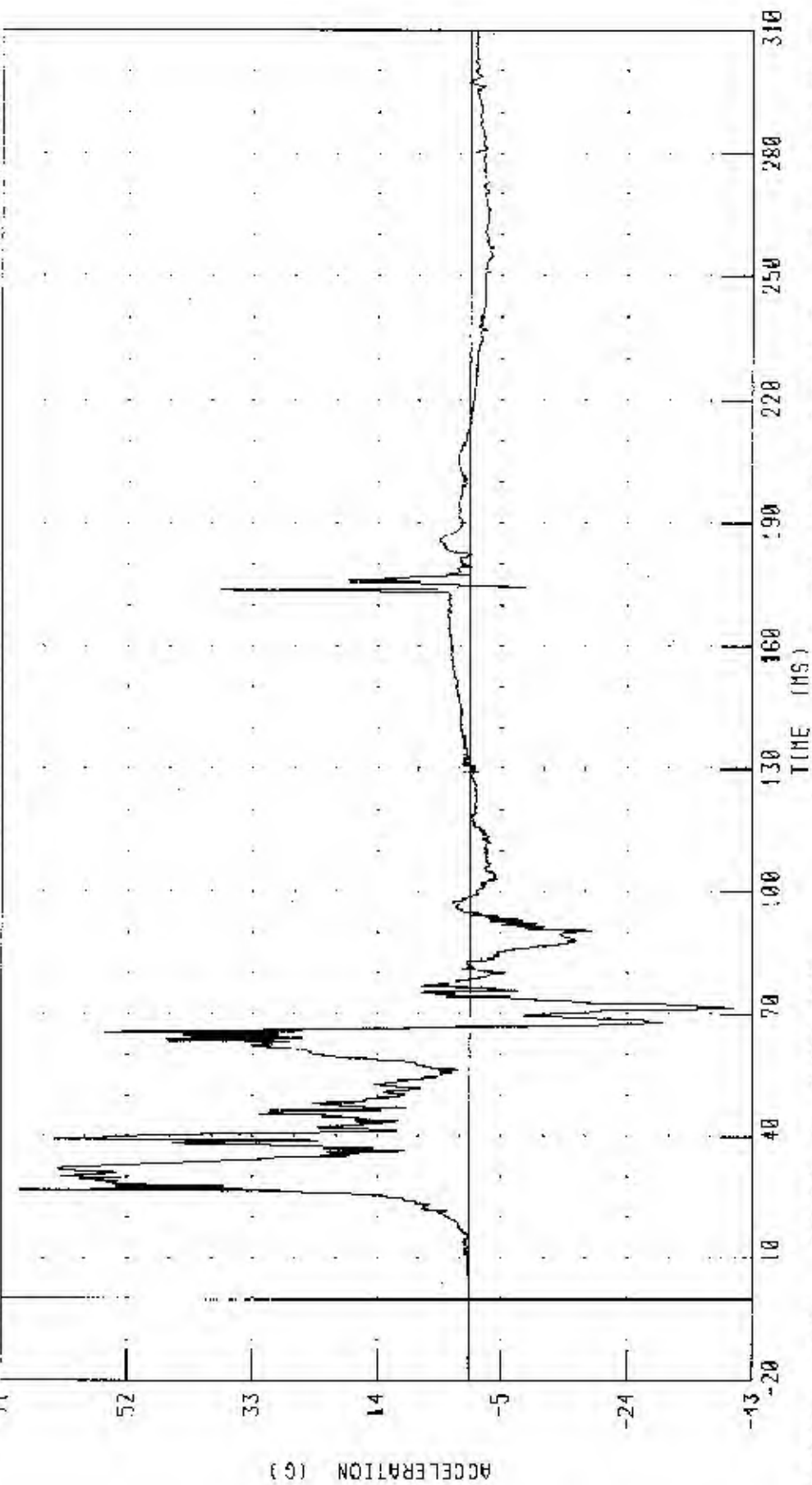
55/20 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 MAZDA 6

DRIVER UPPER RIB (Y-AXIS) REBOUND/ACCELERATION

IRC INC.

FWSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030317-2



CHANNEL: LUPYR1 FILTER: CH CLASS 1000

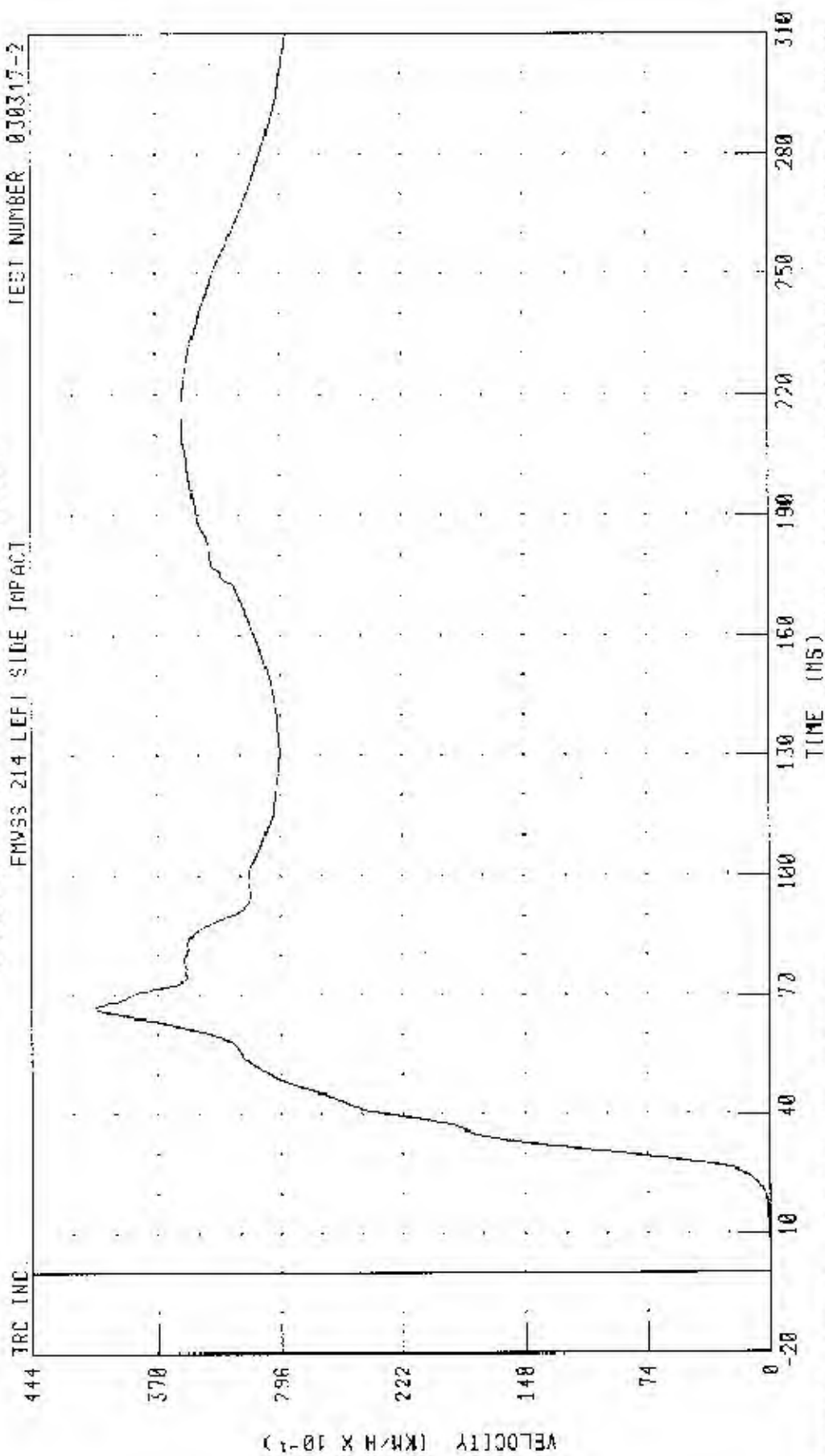
PEAK DATA: 68.30 G @ 27.20 MS, 39.93 G @ 71.60 MS

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 MAZDA 6

DRIVER UPPER RIB Y-AXIS REDUCED PEAK VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER 030317-2

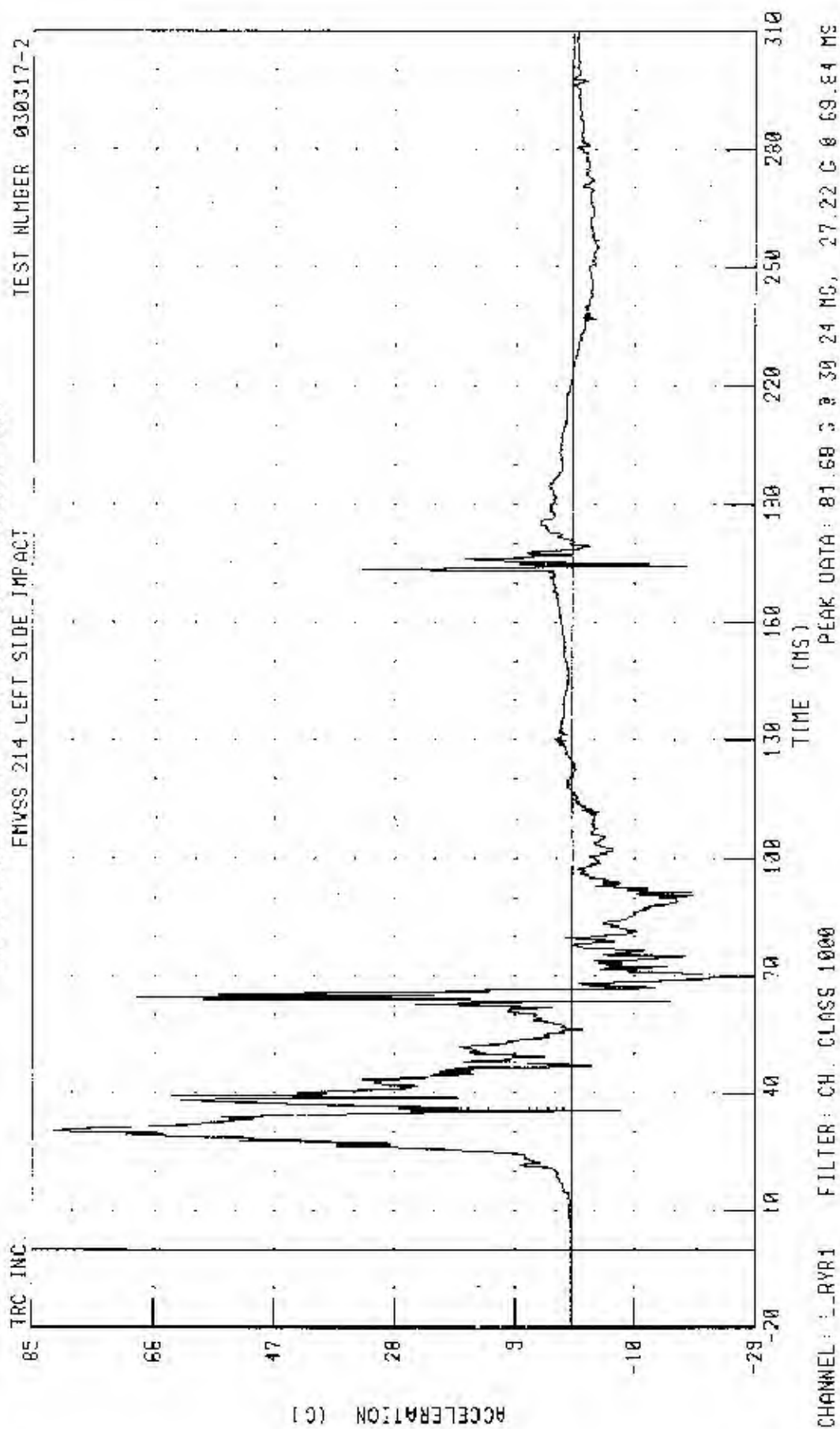


CHANNEL: LURYVI FILTER: CH. CLASS 180

PEAK DATA: 40.67 KM/H @ 66.72 MS, 0.00 KM/H @ 0.56 MS

55/28 MPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 MAZDA6 B

DRIEVER LOWER RIB Y-AXIS REDUNDANT ACCELERATION





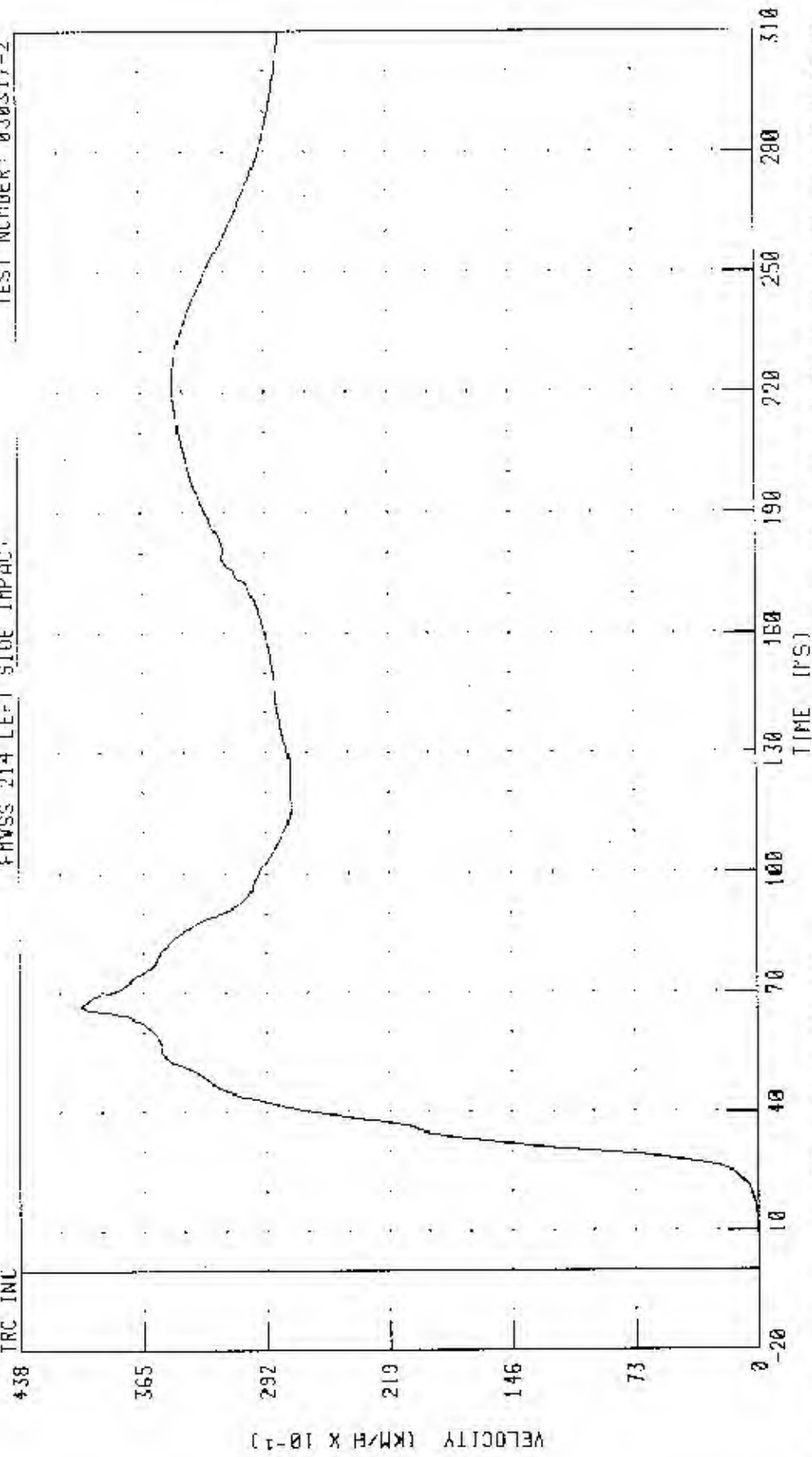
55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 MAZDA 6

DRIVER LOWER RIB Y-AXIS REDUNDANT VELOCITY

TEST NUMBER: 030317-2

FHVSS 214 LEFT SIDE IMPACT

TRC INC



CHANNEL LLYVI FILTER CH CLASS 180

PEAK DATA: 10 13 KM/H 0 66 48 MS, 0 00 KM/H 0 0 0.00 MS

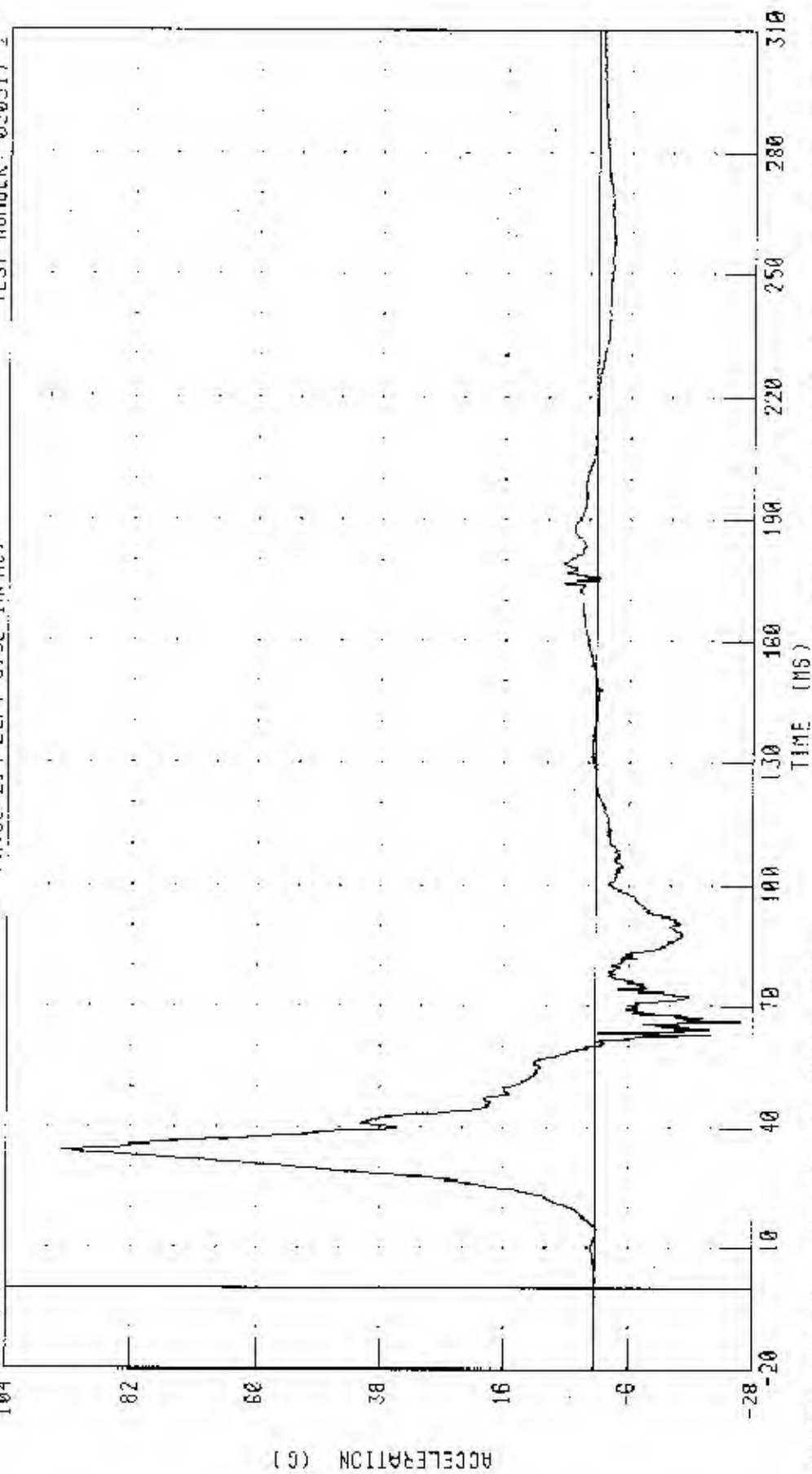
55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 MAZDA 6

DRIVER LOWER SPINE Y-AXIS REDUNDANT ACCELERATION

TRC INC.

FMVSS 214 LEFT SIDE IMPACT

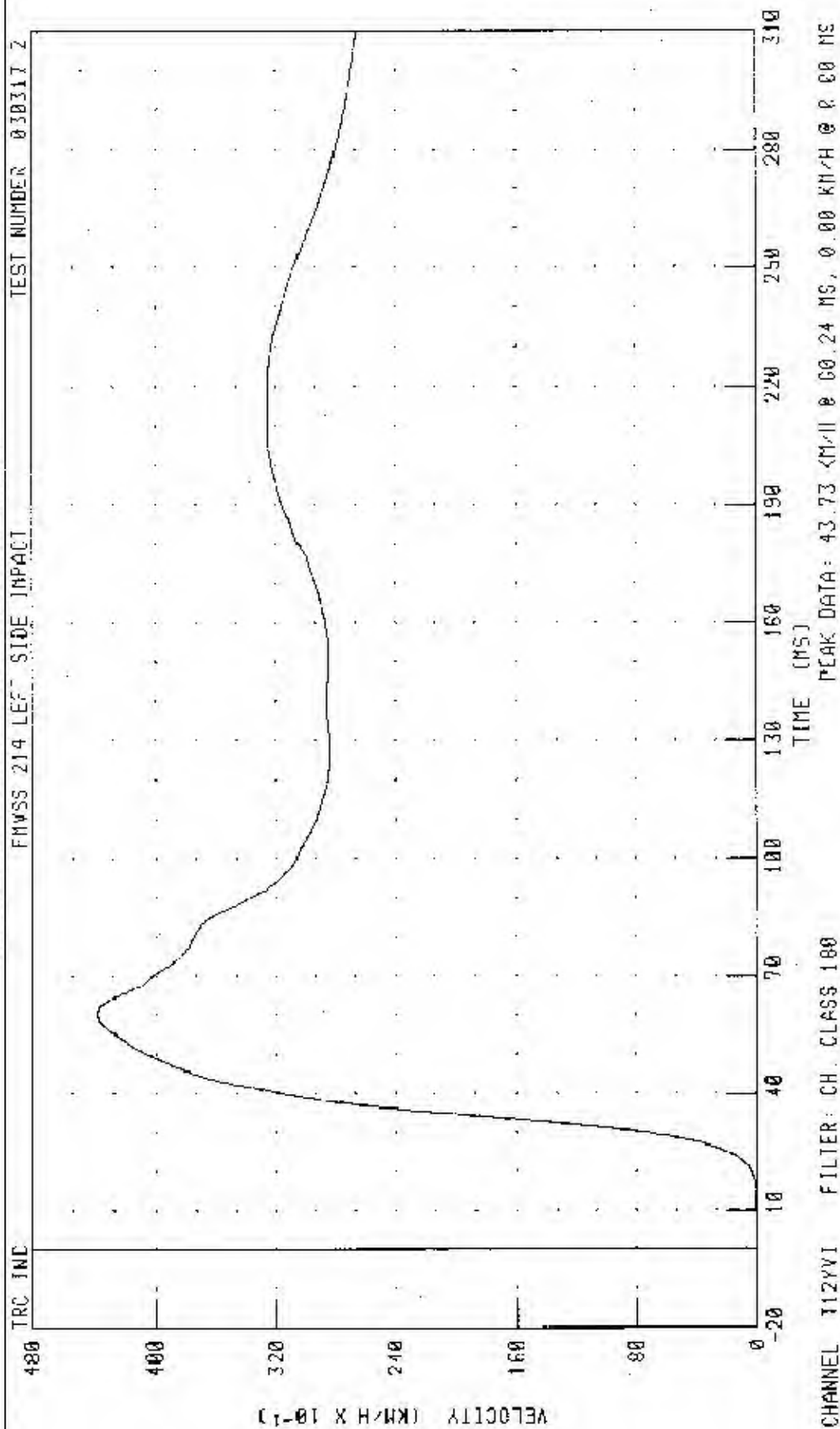
TEST NUMBER: 030317-2



CHANNEL: T12YR1 FILTER: CH CLASS 1000

PEAK DATA: 94.36 G @ 34.64 MS; -25.70 G @ 86.00 MS

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 MAZDA 6  
 DRIVER LOWER SPINE Y AXIS RECURRENT VELOCITY





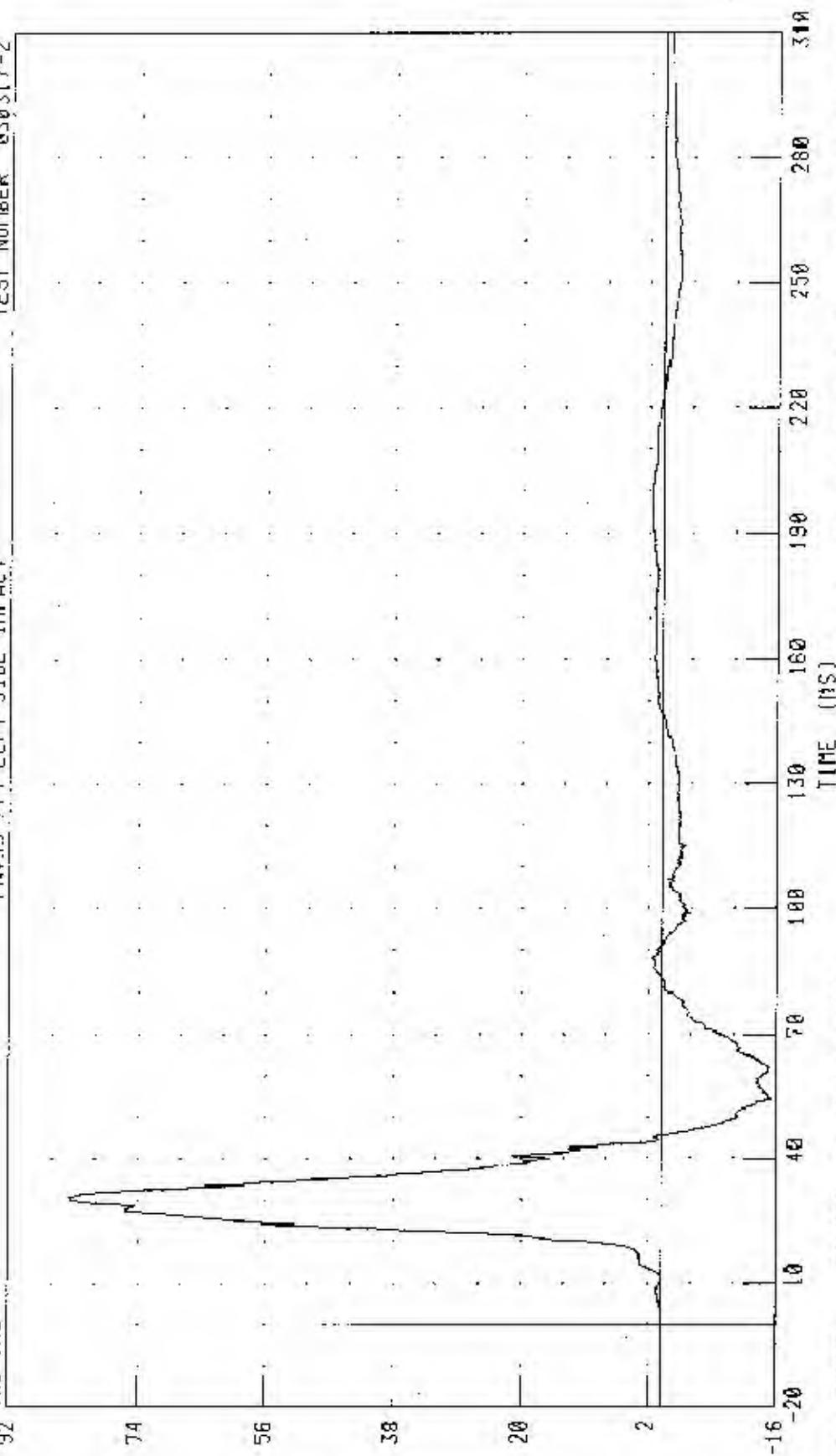
55/73 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 MAZDA 6

DRIVER PELVIS Y-AXIS REDUNDANT ACCELERATION

TRC INC

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER 030317-2

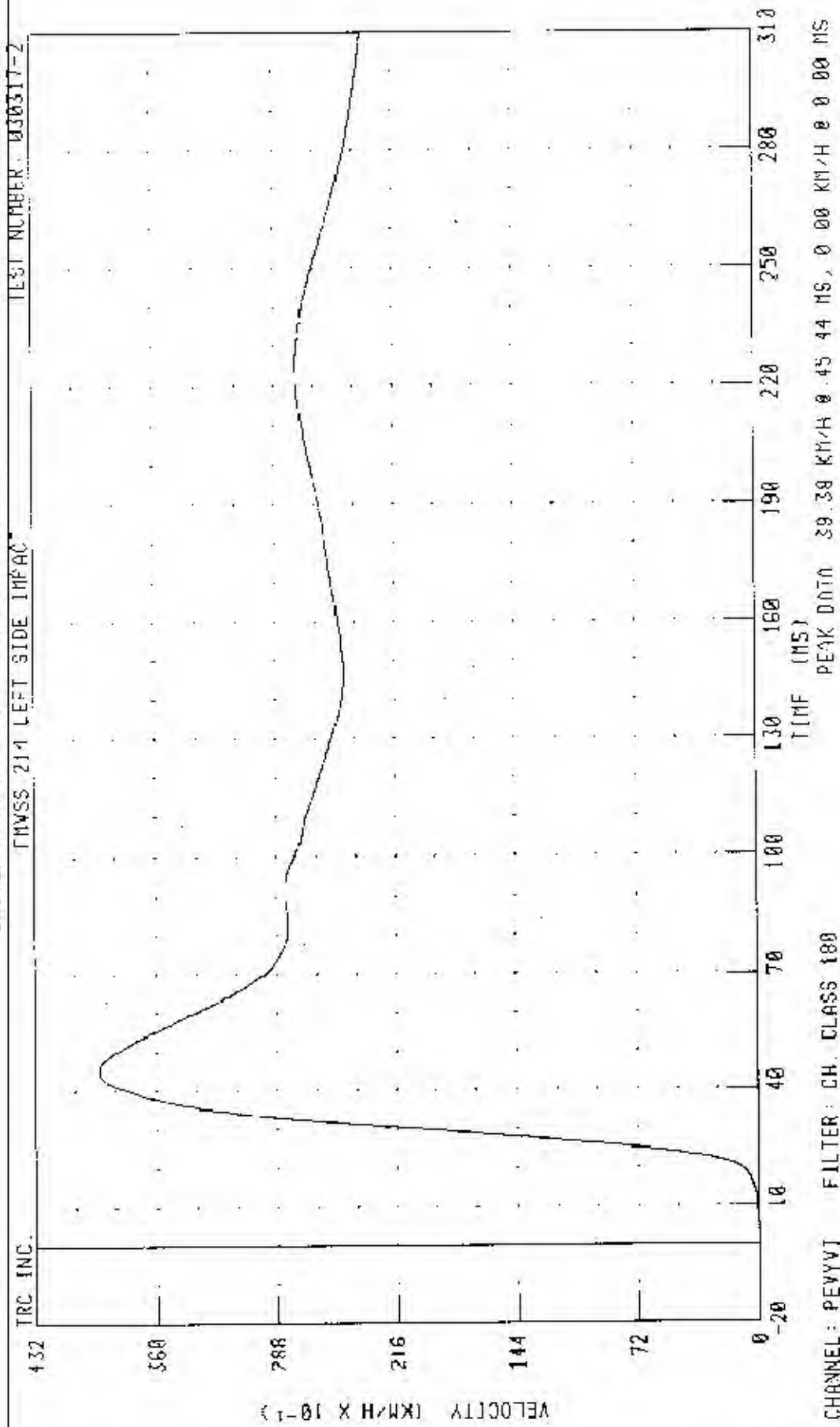


ACCELERATION (G)

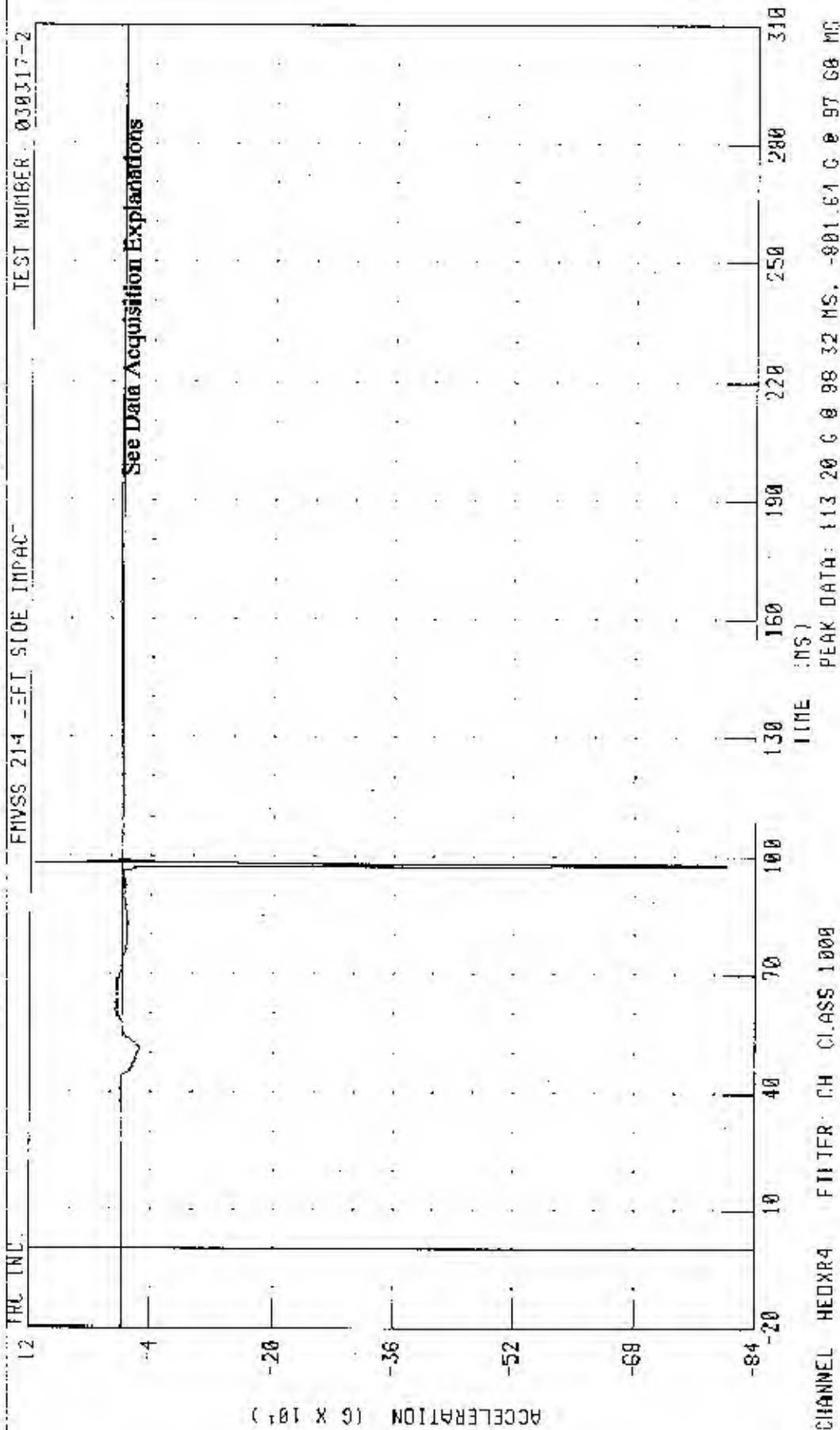
CHANNEL: PEVYR1 FILTER: CH. CLASS 1000

PEAK DATA: 83.70 G @ 30.88 MS, -15.36 G @ 54.16 MS

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 MAZDA 6  
 DRIVER PELVIS Y AXIS REDUNDANT VELOCITY



55/28 KPH 90 DEGREE SIDE IMPACT MOVING DEFORMABLE BARRIER INTO LEFT SIDE OF 2003 NADA04 C  
LEFT REAR PASSENGER HEAD X AXIS REDUNDANT ACCELERATION





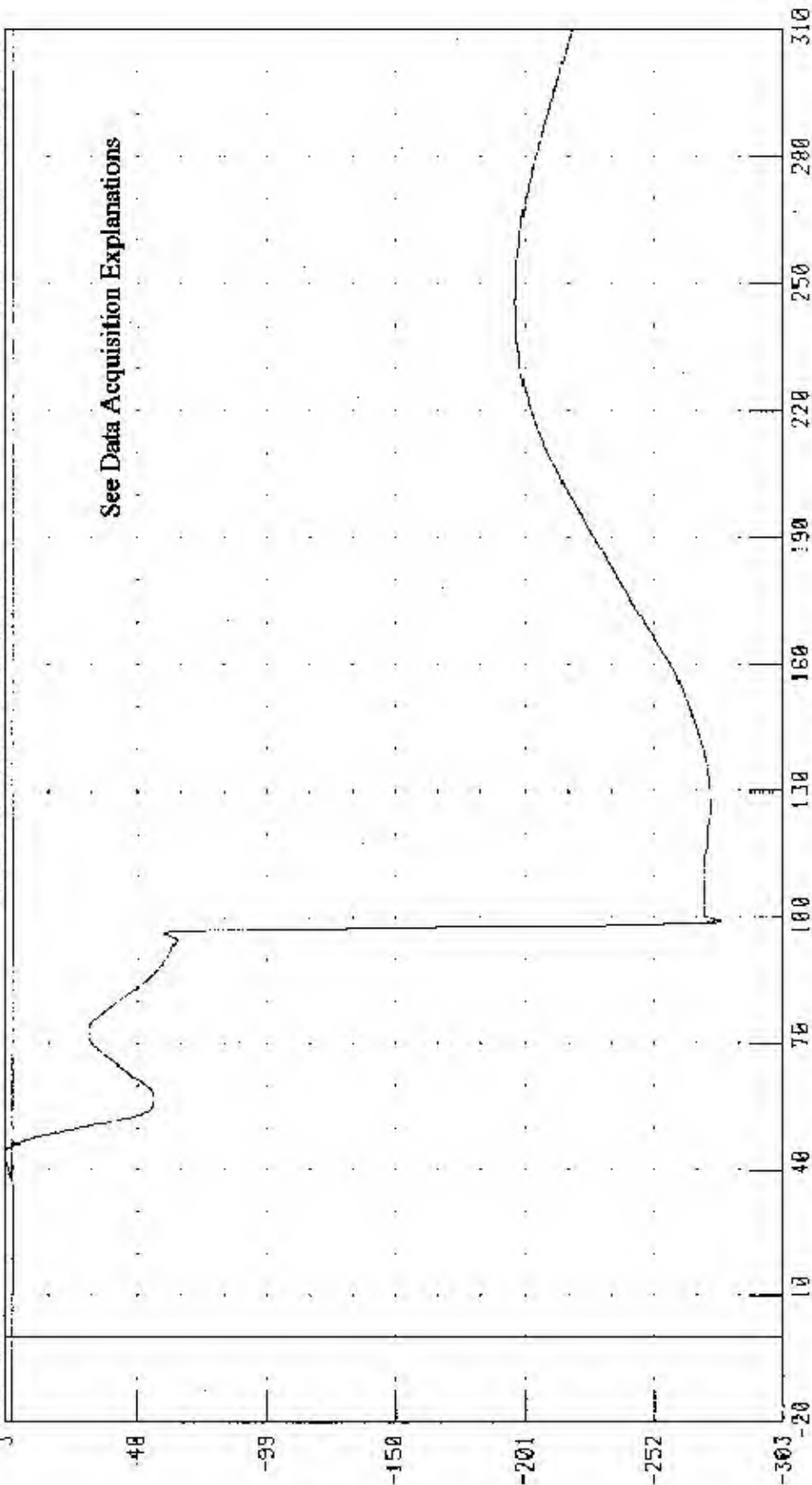
55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 MAZDA 6  
LEFT REAR PASSENGER PEAC X-AXIS REDUNDANT VELOCITY

TEST NUMBER: 030317-2

FMVSS 214 LEFT SIDE IMPACT

TRC INC

See Data Acquisition Explanations



VELOCITY (KM/H X 10-1)

TIME (MS)

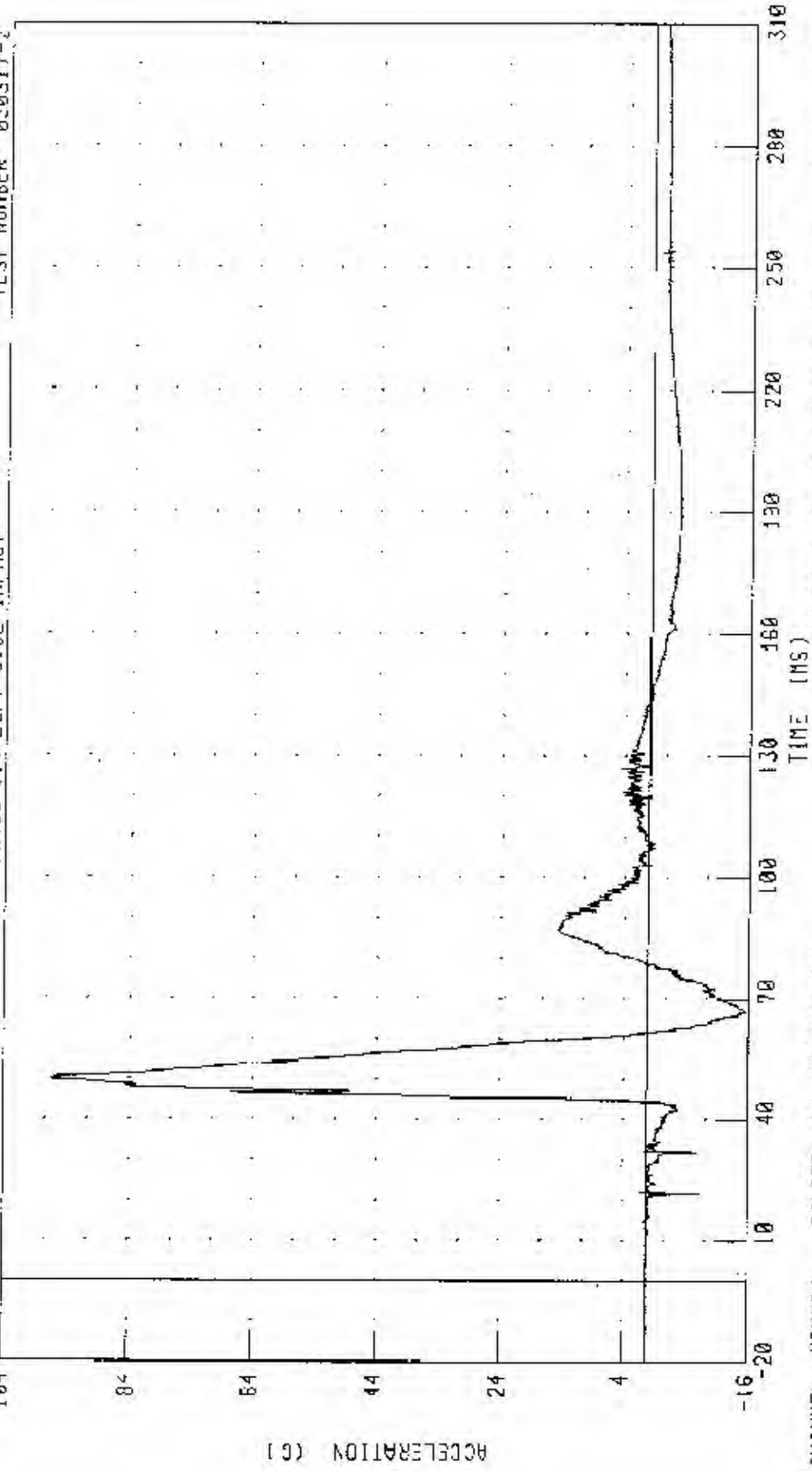
PEAK DATA: 0 34 KM/H @ 44.24 MS, 27 06 KM/H @ 99 20 MS

CHANNEL: HCOXVJ FILTER: CIL CLASS 100

55-28 KPII 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 MAZDA 6

LEFT REAR PASSENGER HEAD Y-AXIS REDUNDANT ACCELERATION

TRC INC. PHYSS 214 LEFT SIDE IMPACT TEST NUMBER 030317-2



CHANNEL: HEDYR4 FILTER: CH. CLASS 1000

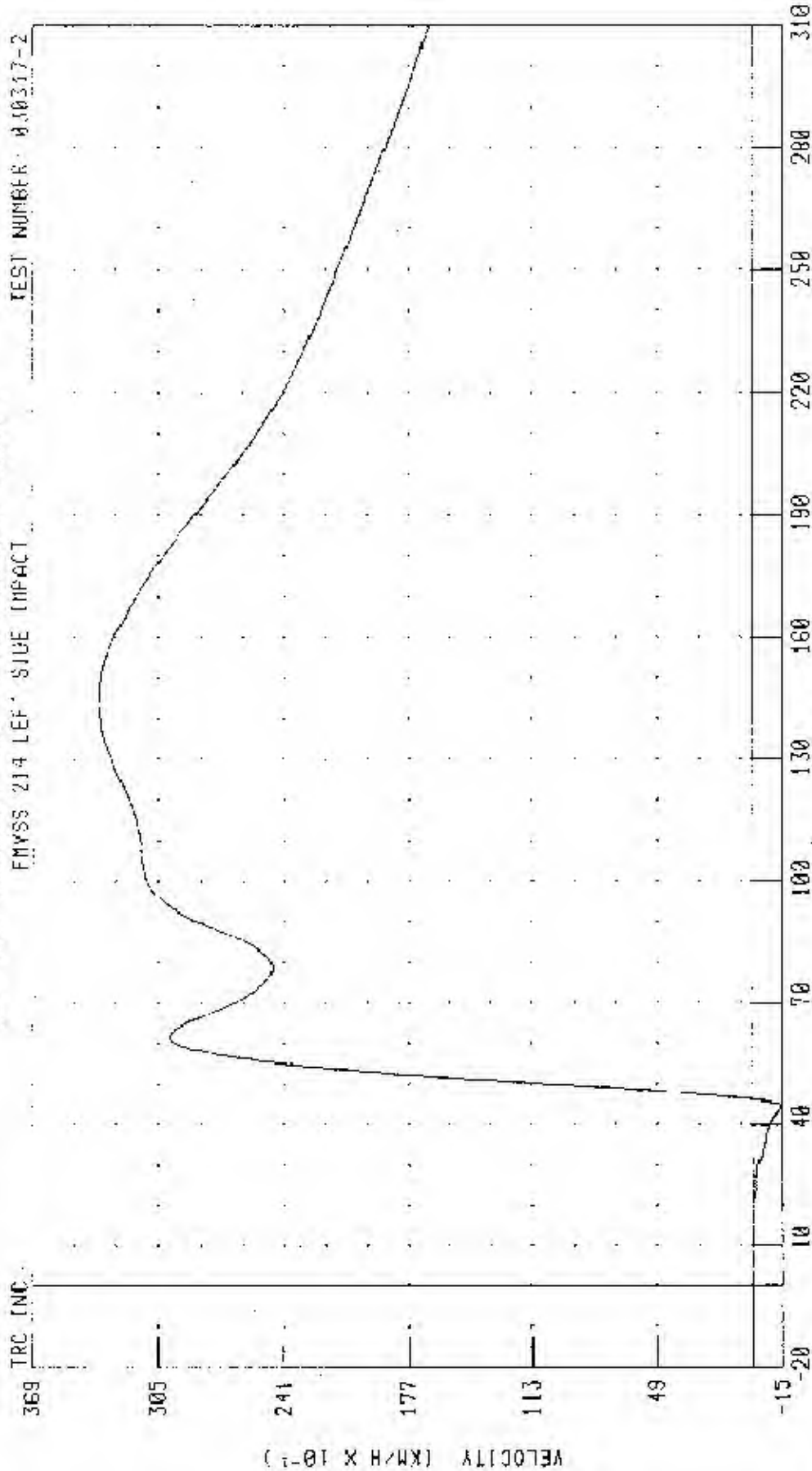
PEAK DATA: 96.35 G @ 50.24 MS, -15.38 G @ 66.64 MS

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 HAZD4 E

LEFT R-OR PASSENGER HEAD Y-AXIS REDUNDANT VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030317-2

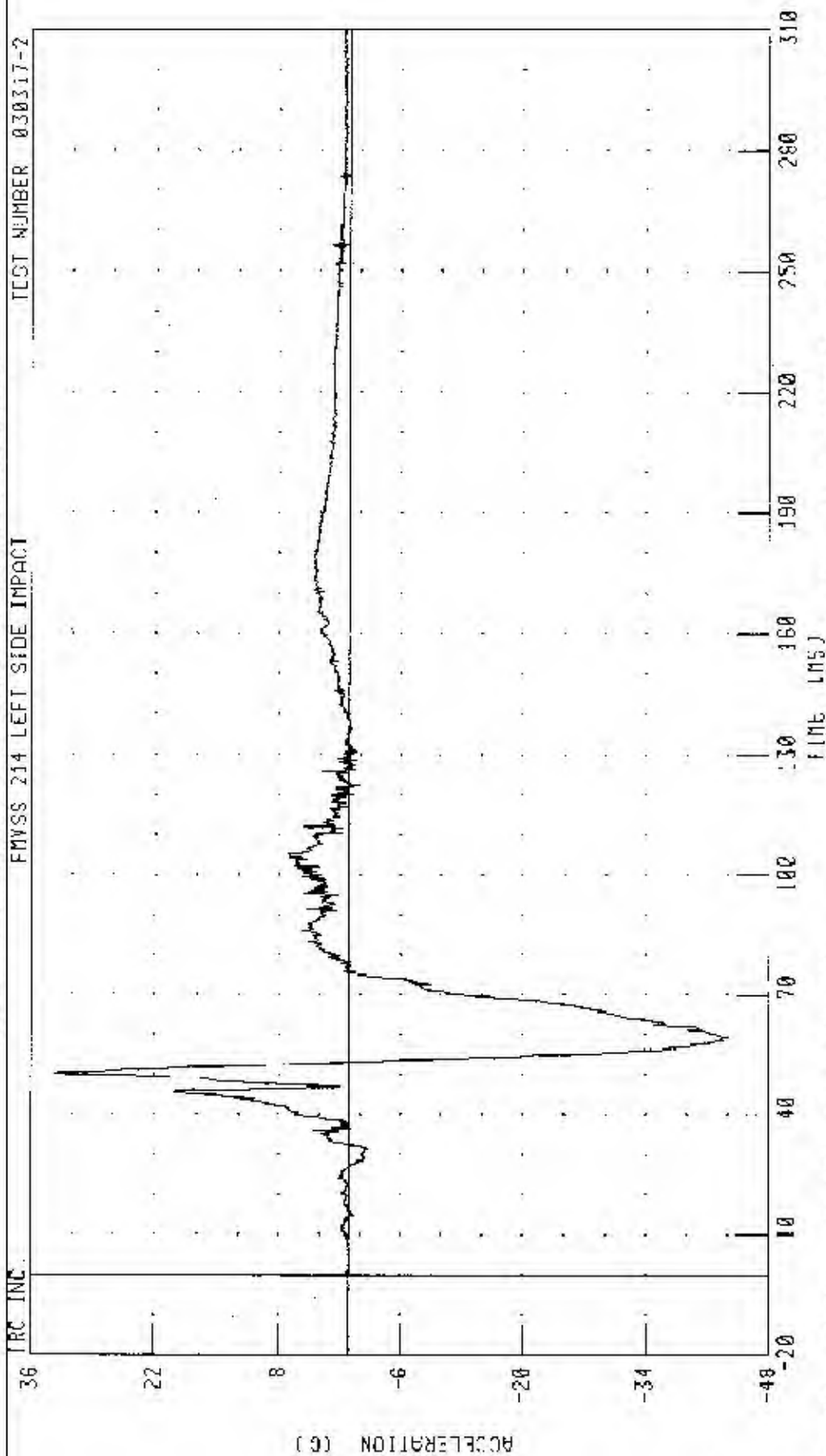


CHANNEL: HEDVYJ FILTER: CH CLASS 180

PEAK DATA: 32.53 KM/H @ 143.68 MS, -1.39 KM/H @ 14.56 MS



55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 200S MAZDA 6  
 LEFT REAR PASSENGER HEAD Z-AXIS REDUNDANT ACCELERATION

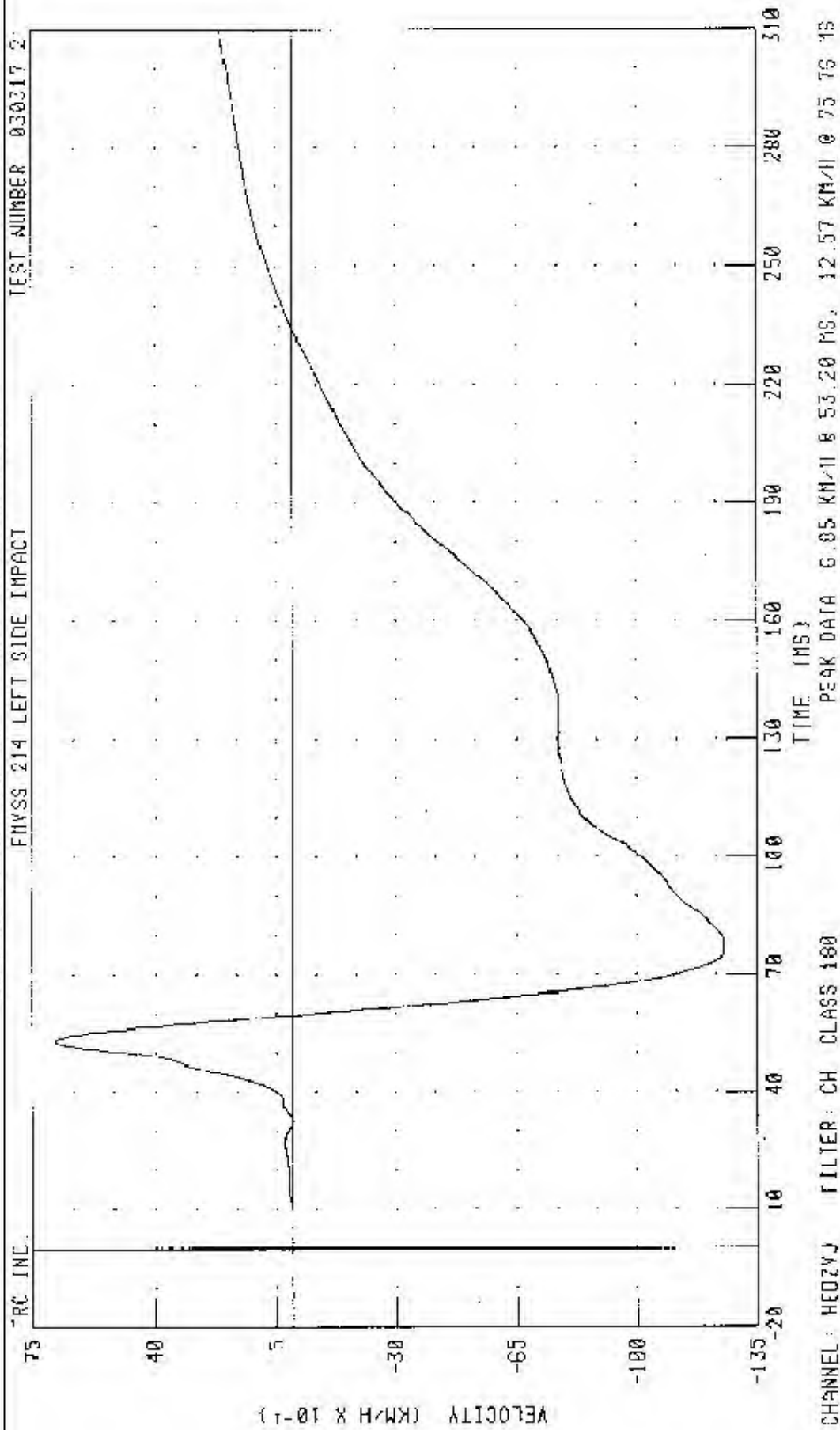


CHANNEL: HEDZR4 FILTER: CH. CLASS 1000

PEAK DATA: 33.25 C @ 50.40 MS, -43.54 C @ 59.36 MS

55/78 KPH 90 DEGREE SIDE IMPACT MOVING DEFORMABLE BARRIER INTO LEFT SIDE OF 2003 MAZDA 6

LEFT REAR PASSENGER HEAD /-AXIS REDUNDANT VELOCITY



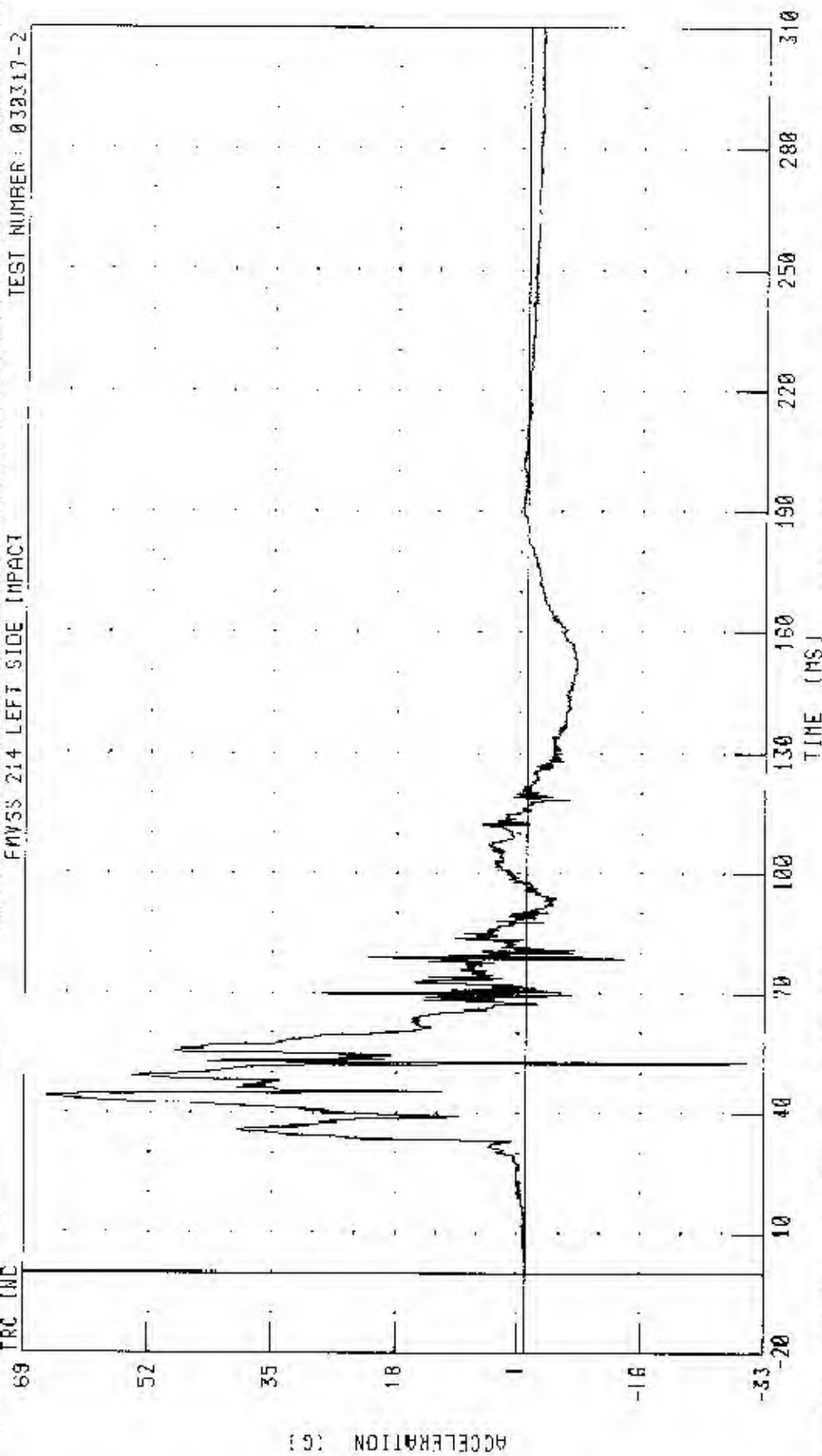
55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 MAZDA 6

LEFT REAR PASSENGER UPPER RIB Y-AXIS REDUNDANT ACCELERATION

TRC (MC)

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030317-2



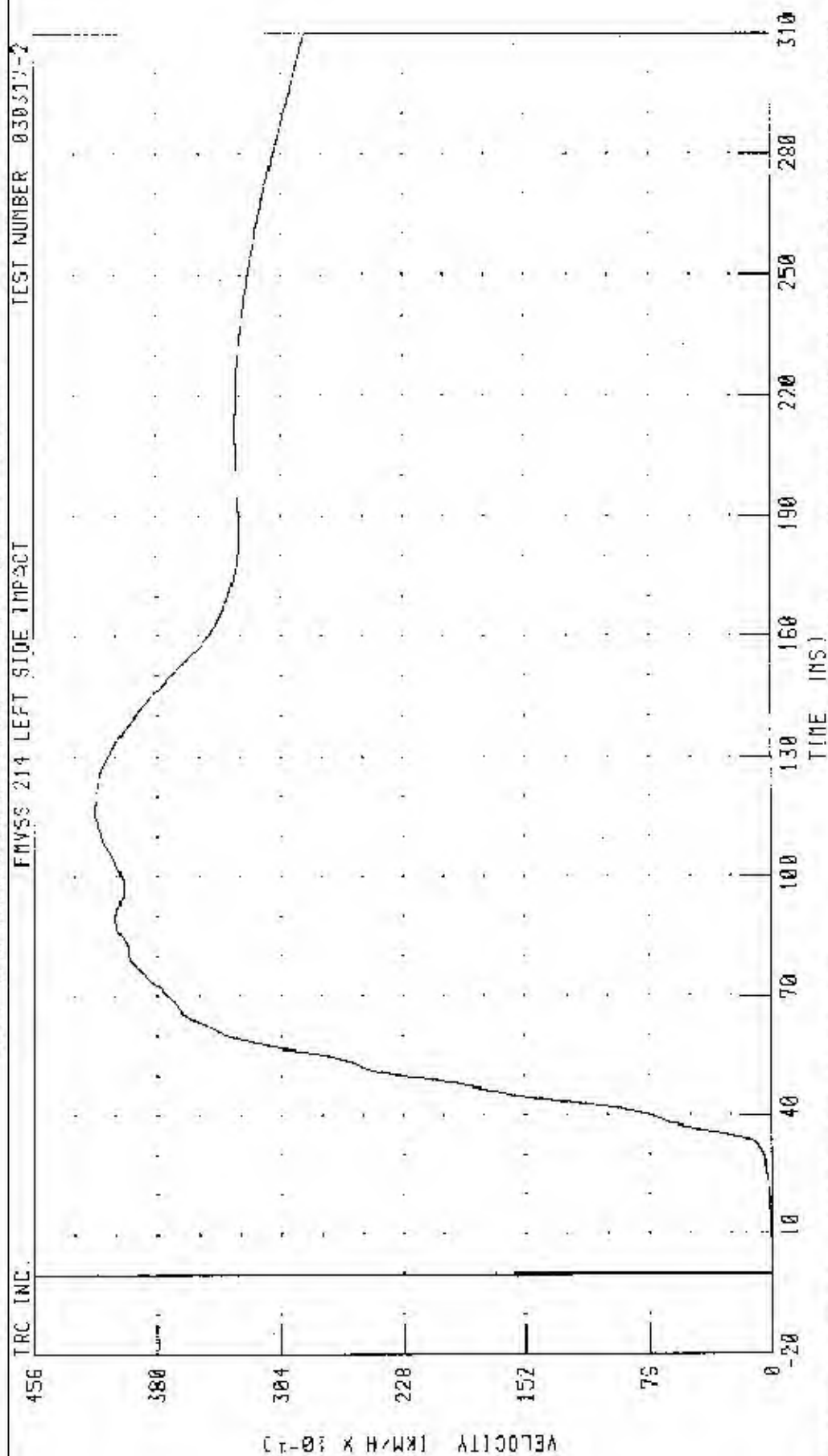
CHANNEL LURYR4 FILTER CH. CLASS 1000

TIME (MS)

PEAK DATA 66.20 G @ 44.40 MS; 30.42 G @ 52.56 MS



55/28 MPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 HAZDA 6  
LEFT REAR PASSENGER UPPER RIB Y-AXIS REDUCING VELOCITY



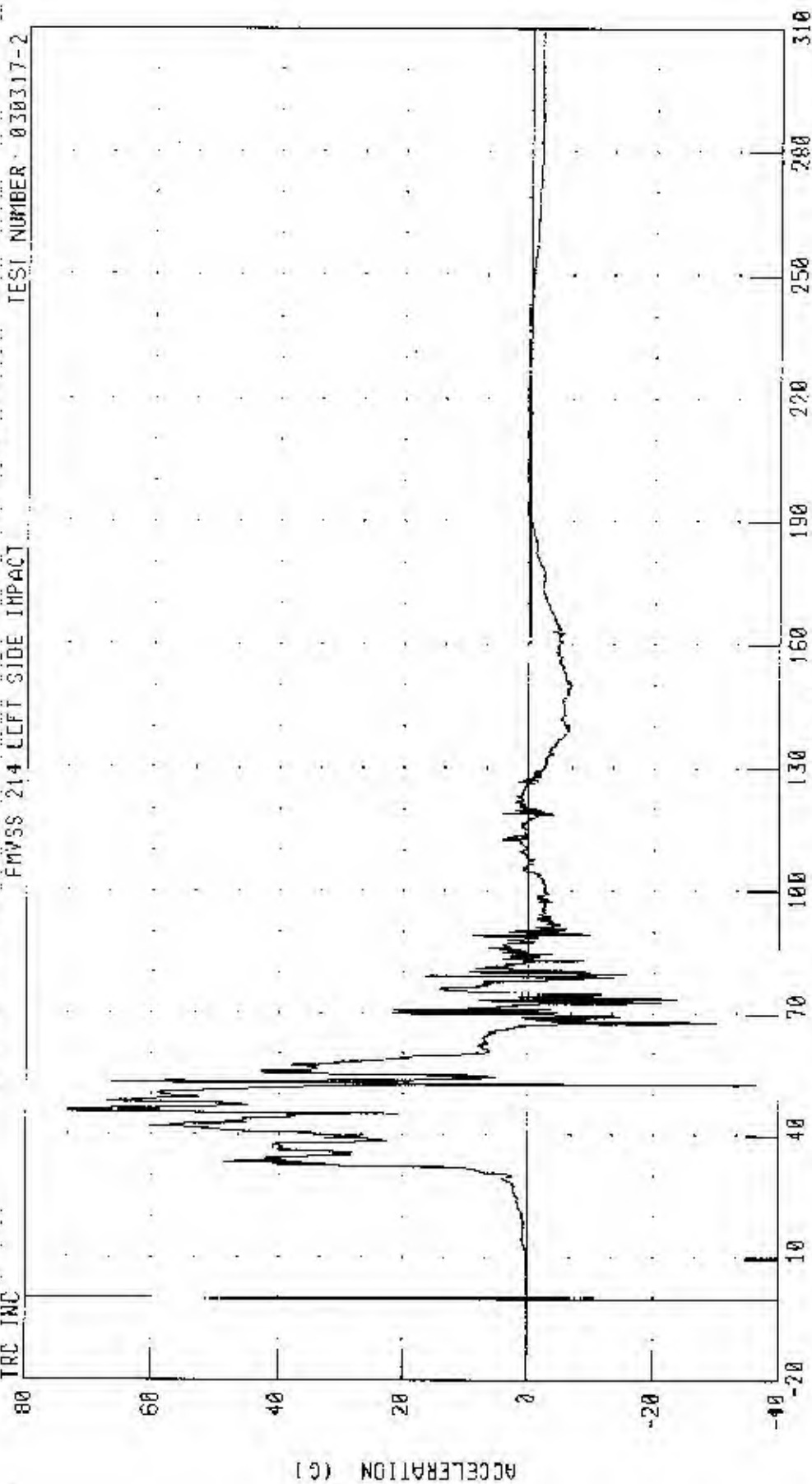
55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 MAZDA 6

LEFT REAR PASSENGER LOWER RIB Y-AXIS REDUNDANT ACCELERATION

TRC INC

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER 030317-2

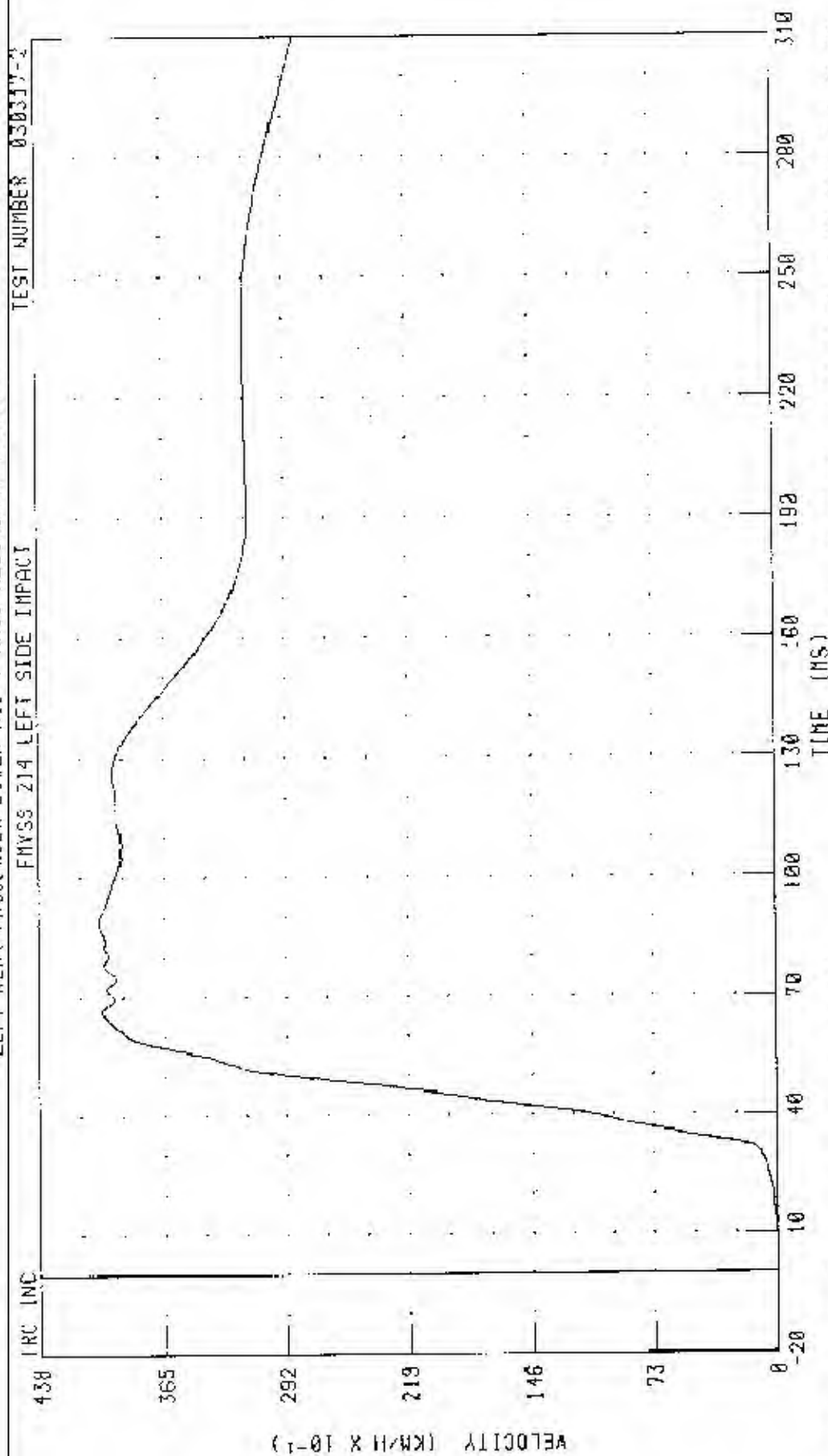


CHANNEL: LLRYR4 FILTER: CH CLASS 1000

TIME (MS)

PEAK DATA 73.51 G @ 46.16 MS, -30.04 G @ 52.56 MS

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRI(E)) INTO LEFT SIDE OF 2003 MAZDA 6  
 LEFT REAR PASSENGER LOWER RIB Y-AXIS REDUNDANT VELOCITY



PEAK DATA 40.29 KM/H 389.12 MS, 0.00 KM/H @ 1.12 MS

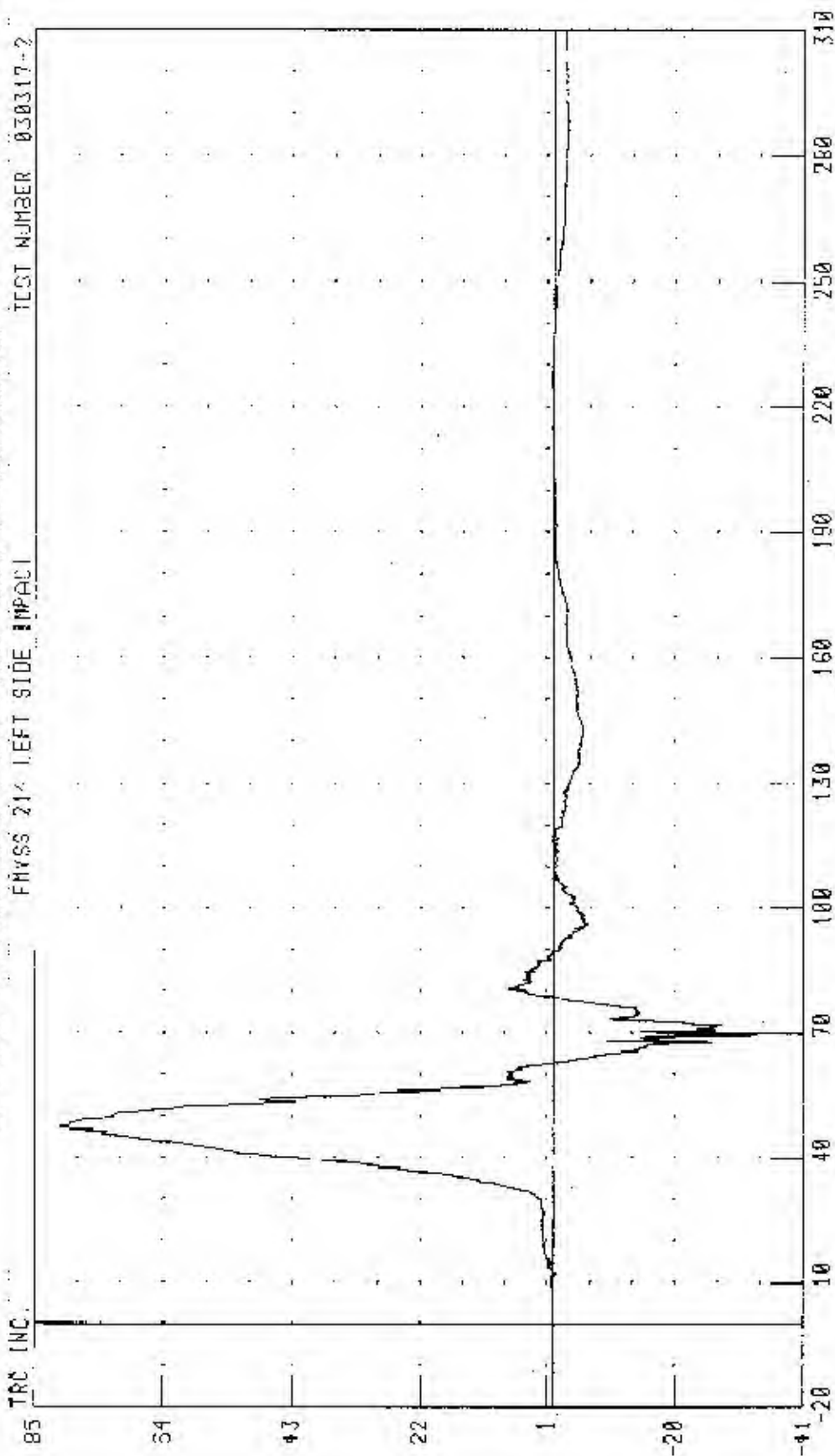


55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 MAZDA 5

LEFT REAR PASSENGER LOWER SPINE Y-AXIS RESONANT ACCELERATION

PHYSS 214 LEFT SIDE IMPACT

TEST NUMBER 030317-2



(C) NOIL08313030

B-79

030317-2

CHANNEL T12YR4 FILTER CH CLASS 1000

PEAK DATA

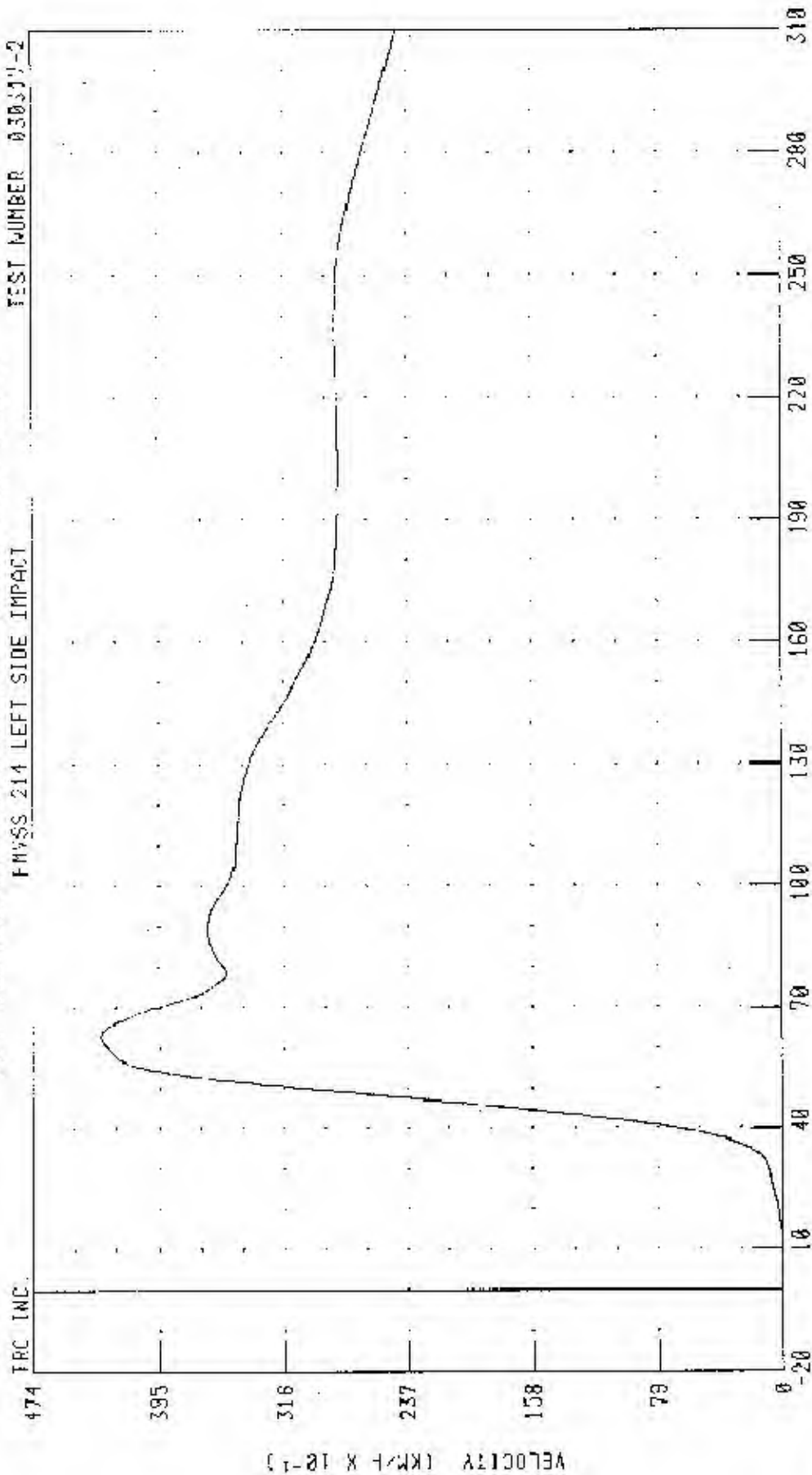
81.01 G @ 17.52 MS, 37.74 G @ 20.30 MS

55/28 MPH 50 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 MAZDA 6

LEFT REAR PASSENGER LOWER SPINE Y-AXIS REDUNDANT VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER 030317-2



CHANNEL: T12YVJ FILTER: CH. CLASS 180

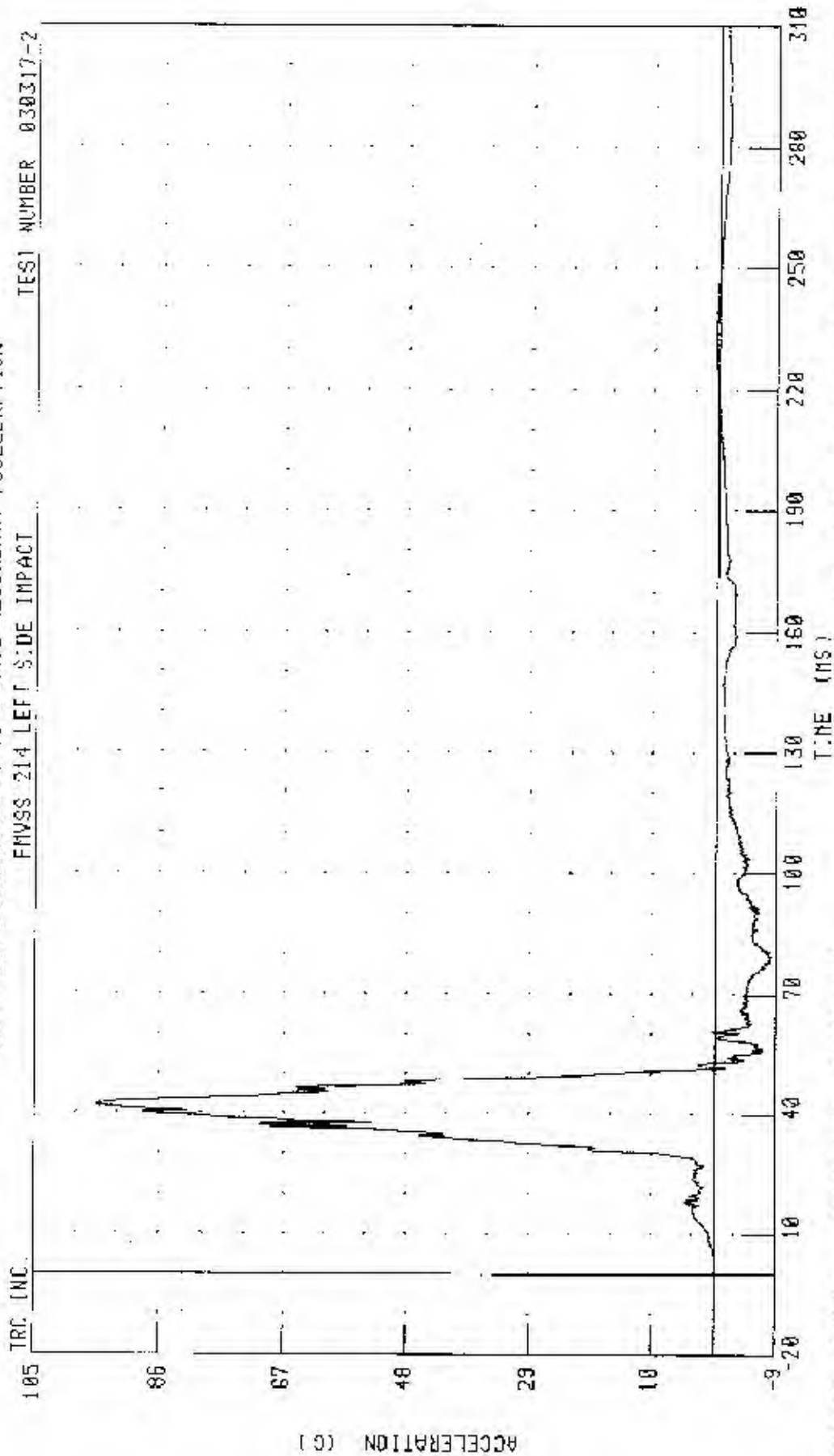
PEAK DATA: 43.11 KM/H @ 62.96 MS; 0.00 KM/H @ 72 MS

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING OFFFORMABLE BARRIER) INTO LEFT SIDE OF 2003 H4ZDA E

LEFT REAR PASSENGER SEAT'S Y-AXIS REDUNDANT ACCELERATION

TEST NUMBER 030317-2

FMVSS 214 LEFT SIDE IMPACT

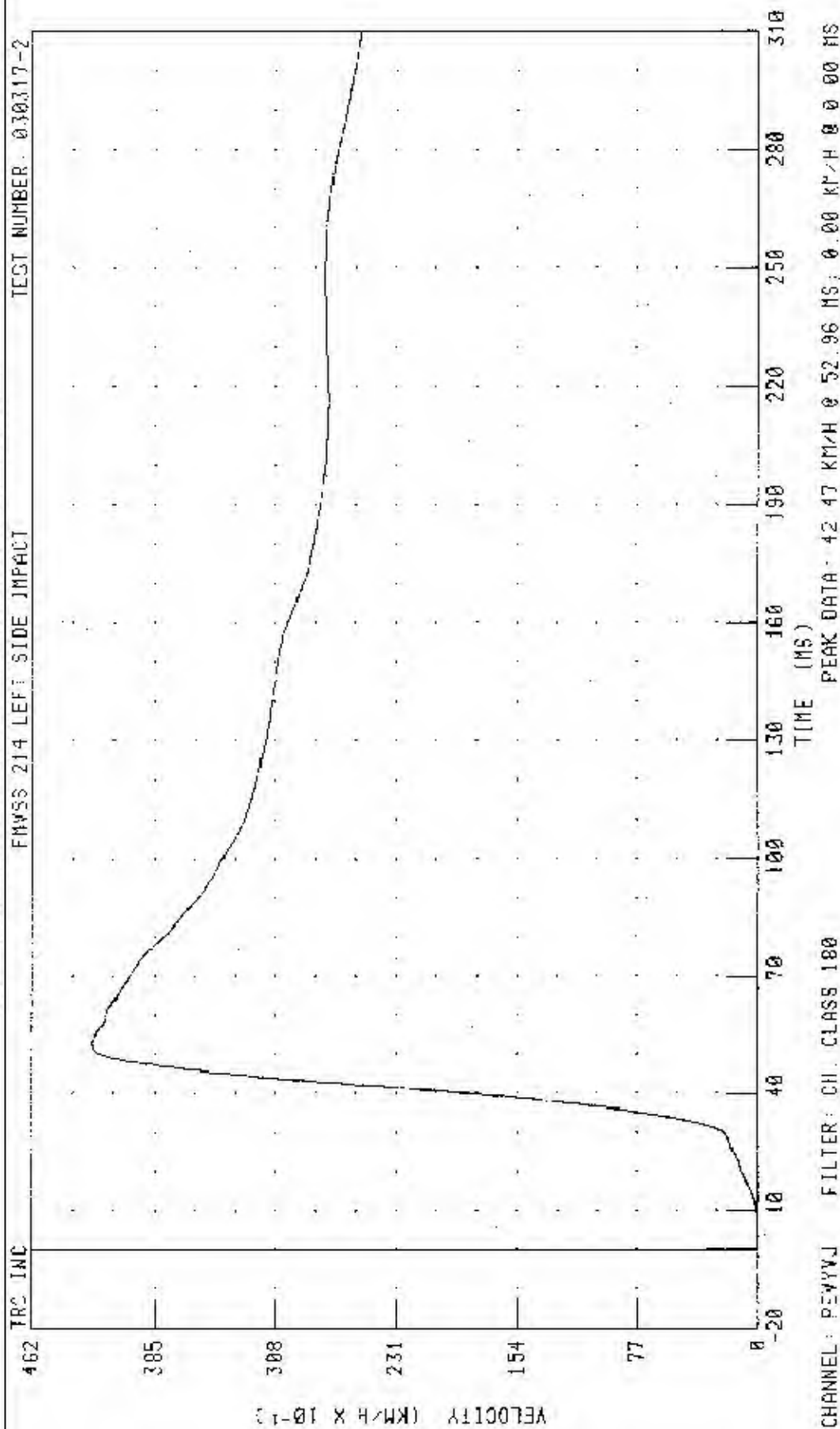


CHANNEL PEVYR4 FILTER: CH CLASS 1000

PEAK DATA: 95.70 C @ 42.00 MS, -8.21 G @ 70.16 MS



55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 MAZDA 6  
 LEFT REAR PASSENGER PELVIS Y-AXIS REOUNDANT VELOCITY



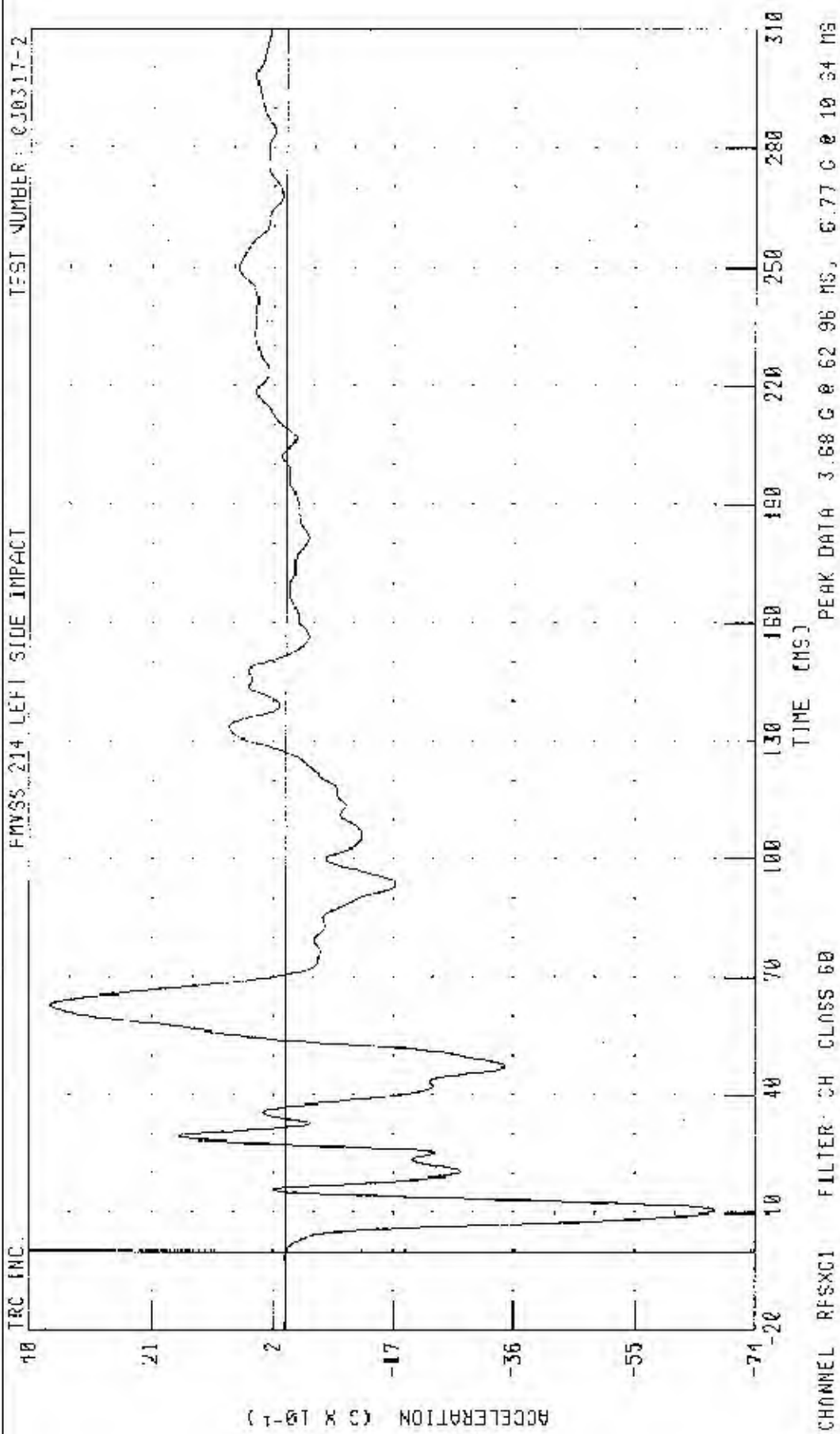
Test Vehicle Instrumentation Plots

Acceleration Data - Filter Class 60

Integration Data - Filter Class 180

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARREIR) INTO LEFT SIDE OF 2003 MAZDA 3

RIGHT SIDE SILL AT FRONT SEAT X-AXIS ACCELERATION



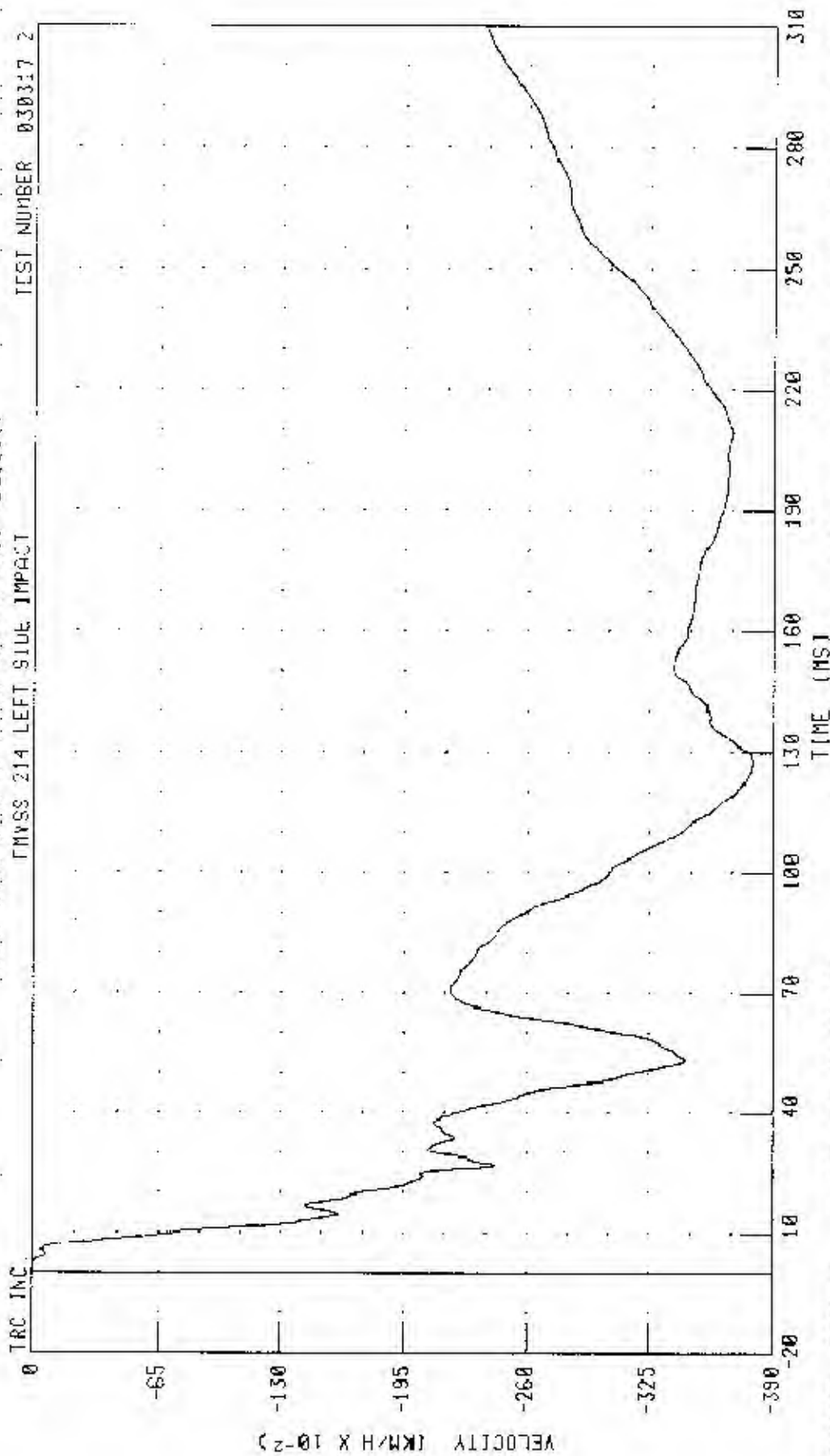


55/28 KPH 90 DEGREE SIDE IMPACT MOVING DEFORMABLE BARRIER INTO LEFT SIDE OF 2003 MAZDA 0

RIGHT SIDE SILL AT FRONT SEAT X AXIS VELOCITY

TEST NUMBER 030317 2

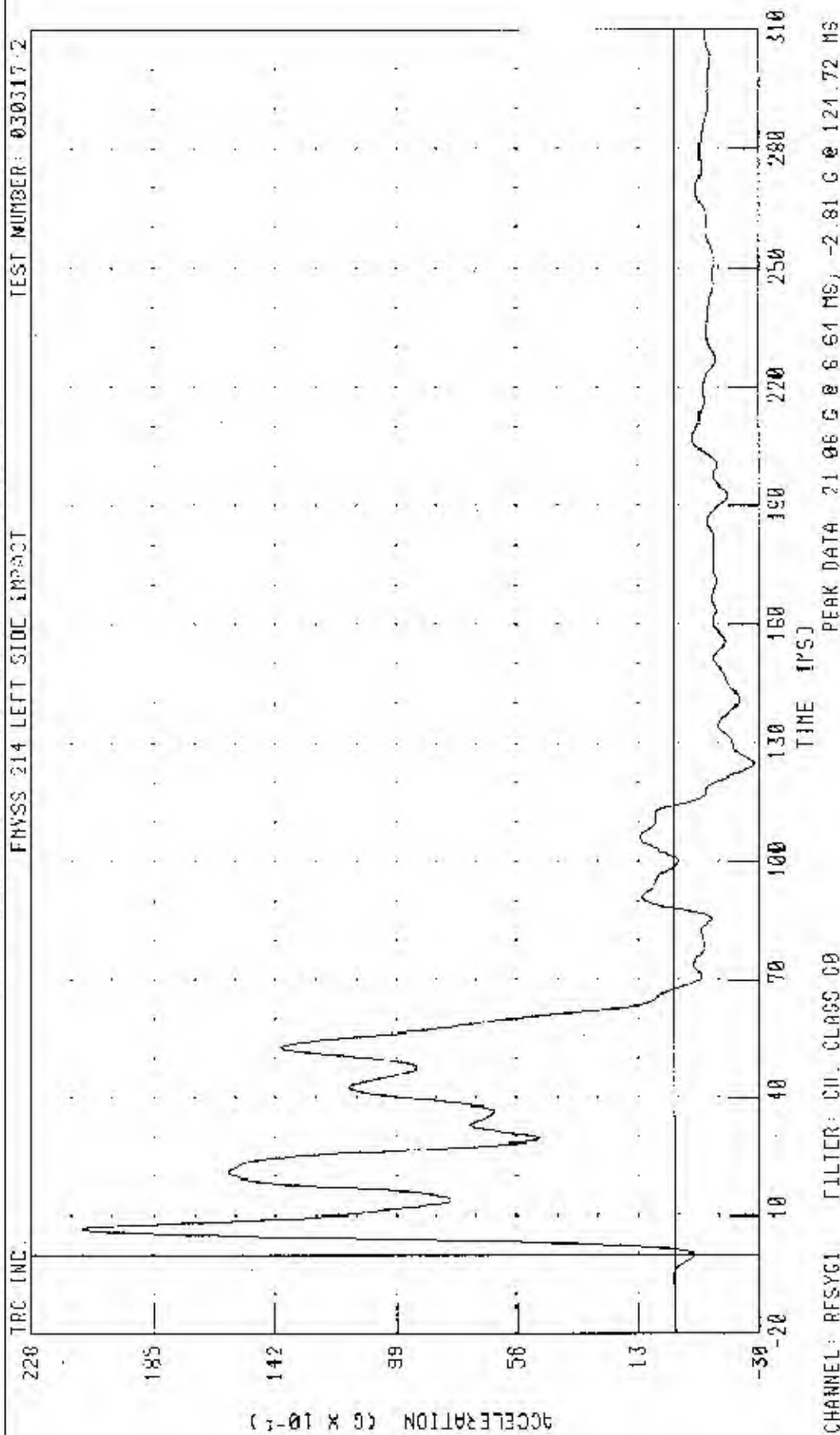
FMVSS 214 LEFT SIDE IMPACT



PEAK DATA 0.00 KM/H @ 1 92 15; -3.79 KM/H @ 127 84 MS

CHANNEL RFSXV1 FILTER CH CLASS 180

55/28 MPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 MAZDA 6  
 RIGHT SIDE STILL AT FRONT SEAT Y-AXIS ACCELERATION



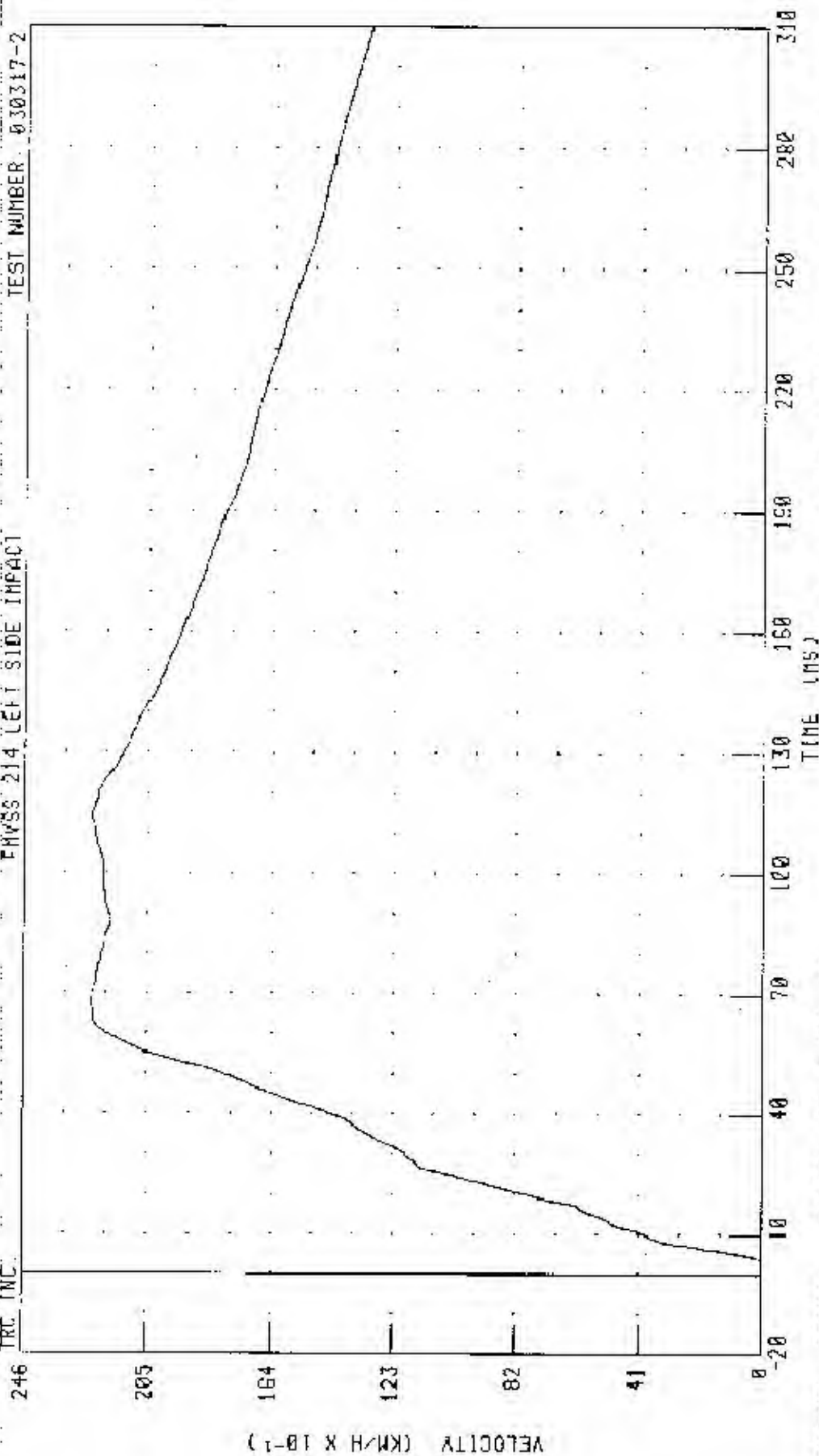
55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 YAZDA 6

RIGHT SIDE SILL AT FRONT SEAT Y-AXIS VELOCITY

TRC INC.

PHYS 214 LEFT SIDE IMPACT

TEST NUMBER 030317-2



TIME (MS)

CHANNEL: RFSYV1 FILTER: CH. CLASS: 180

PEAK DATA: 22.40 KM/H @ 67.84 MS, 0.00 KM/H @ 2.72 MS



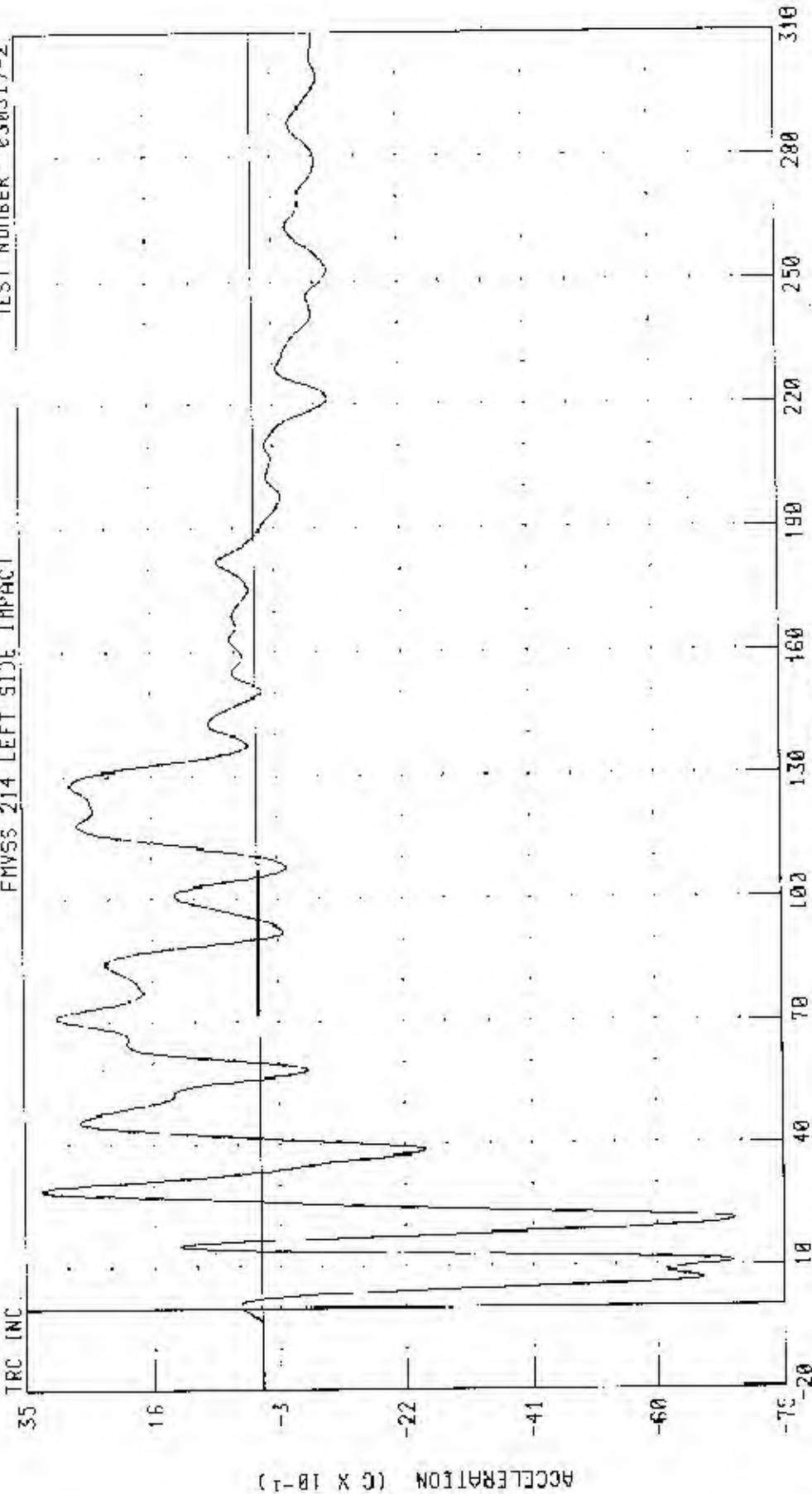
55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 MAZDA 6

RIGHT SIDE SILL AT FRONT SEAT Z-AXIS ACCELERATION

TEST NUMBER: 030317-2

FMVSS 214 LEFT SIDE IMPACT

TRC INC



TIME (MS)

PEAK DATA: 3.25 S @ 29.04 MS, -7.17 G @ 21.28 MS

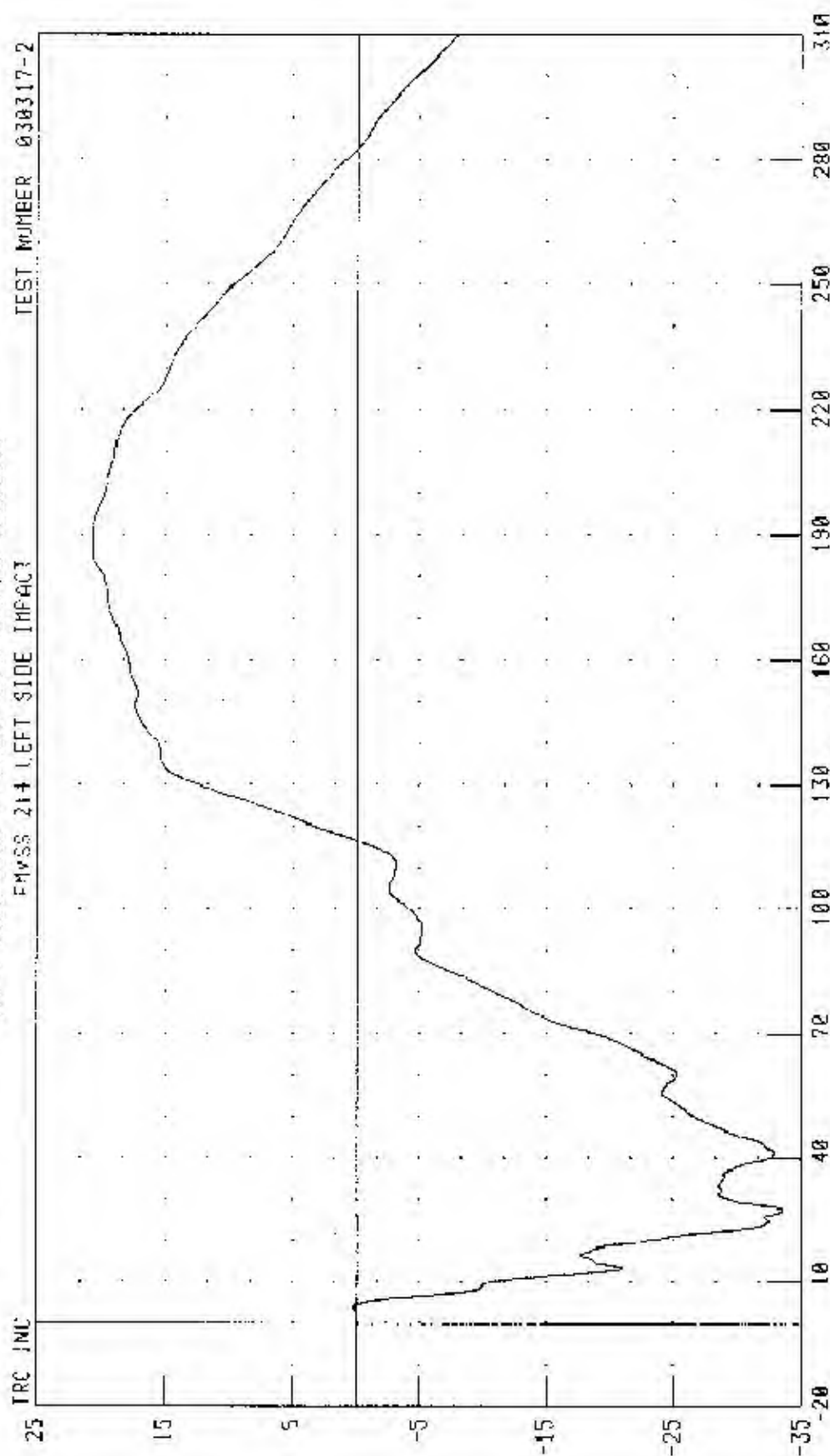
CHANNEL: RFSZG1 FILTER: CH. CLASS 60

55/28 3PH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 MAZDA 6

RIGHT SIDE SILL AT FRONT SEAT Z-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER 030317-2



TIME (MS)

P-PAK DATA 2.08 KM/H @ 188.08 MS; -3.35 KM/H @ 27.44 MS

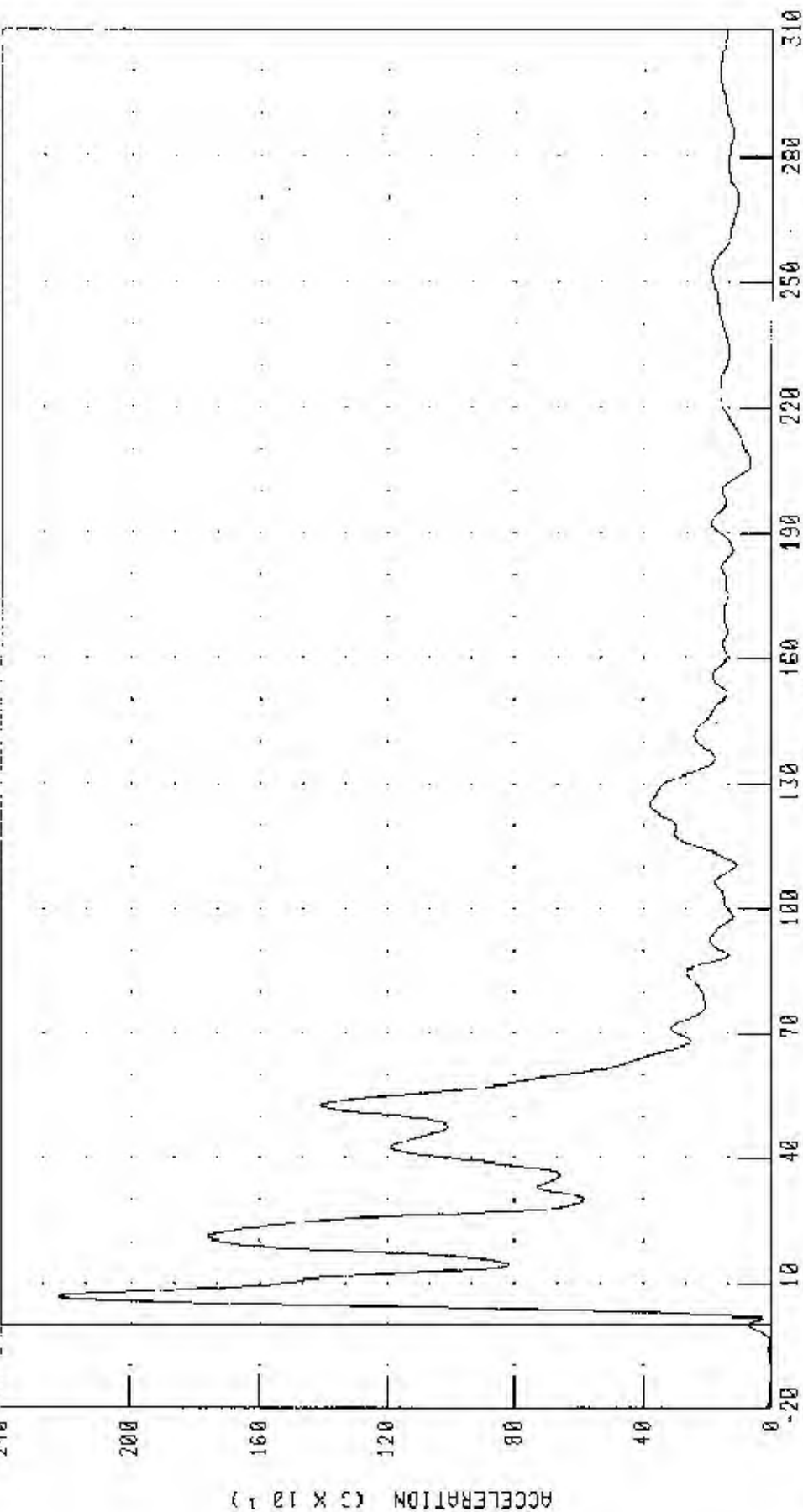
CHANNEL RFSZV1 FILTER CH CLASS 130

55/28 MPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 MAZDA B  
 RIGHT SIDE SILL AT FRONT SEAT RESULTANT ACCELERATION

TEST NUMBER: 030317-2

FHVS 214 LEFT SIDE IMPACT

TRC INC.



ACCELERATION (G X 10<sup>1</sup>)

030317-2

CHANNEL: RFR01 FILTER: CH CLASS: C0

TIME (MS)

PLAK DATA: 22.26 G @ 6.80 MS, 0.01 G @ -10.56 MS

B-90



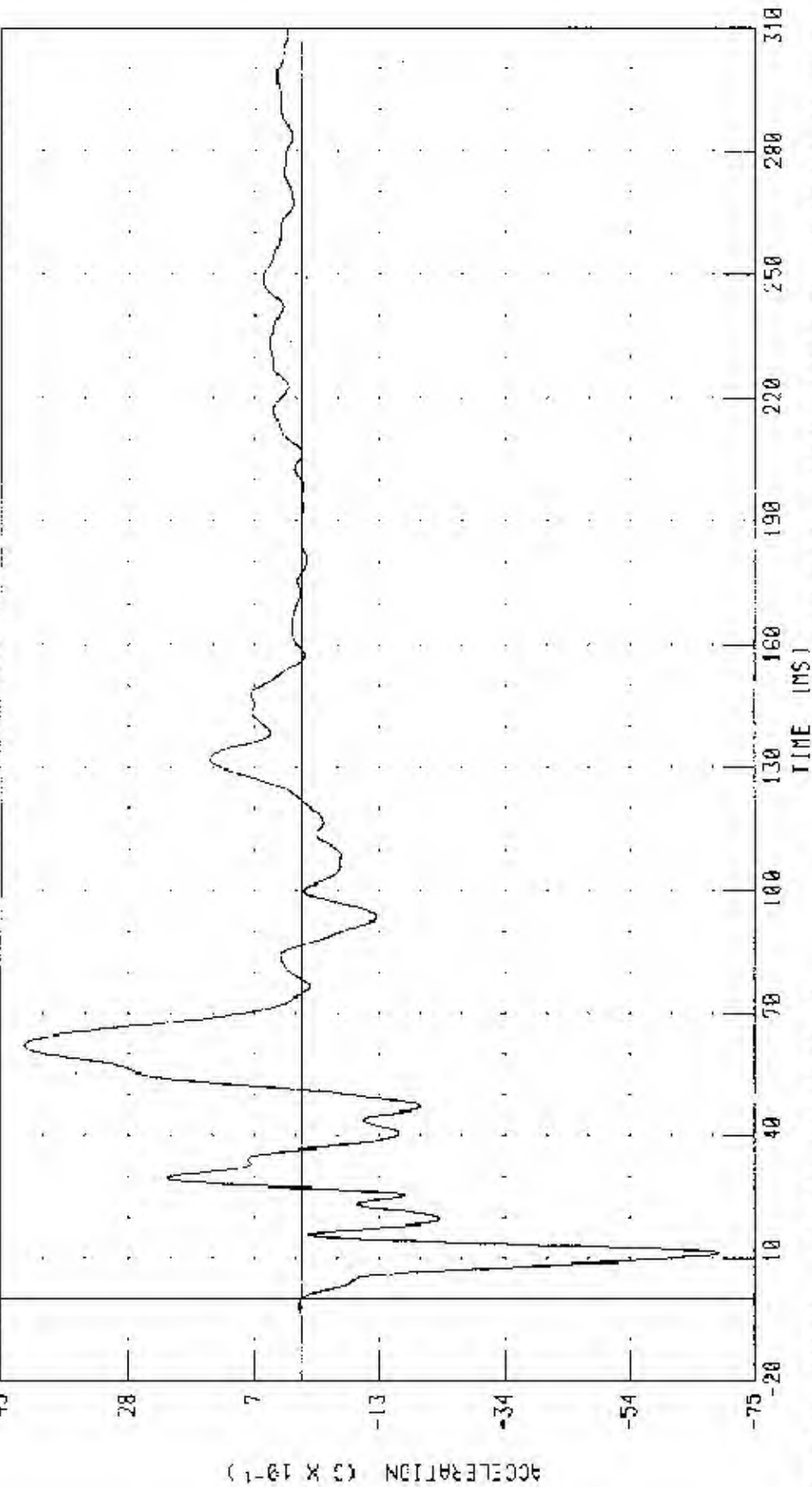
55/28 <PH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 MAZDA 6

RIGHT SIDE SILL AT REAR SEAT X-AXIS ACCELERATION

TEST NUMBER 030317-2

FMVSS 214 LEFT SIDE IMPACT

TRC INC

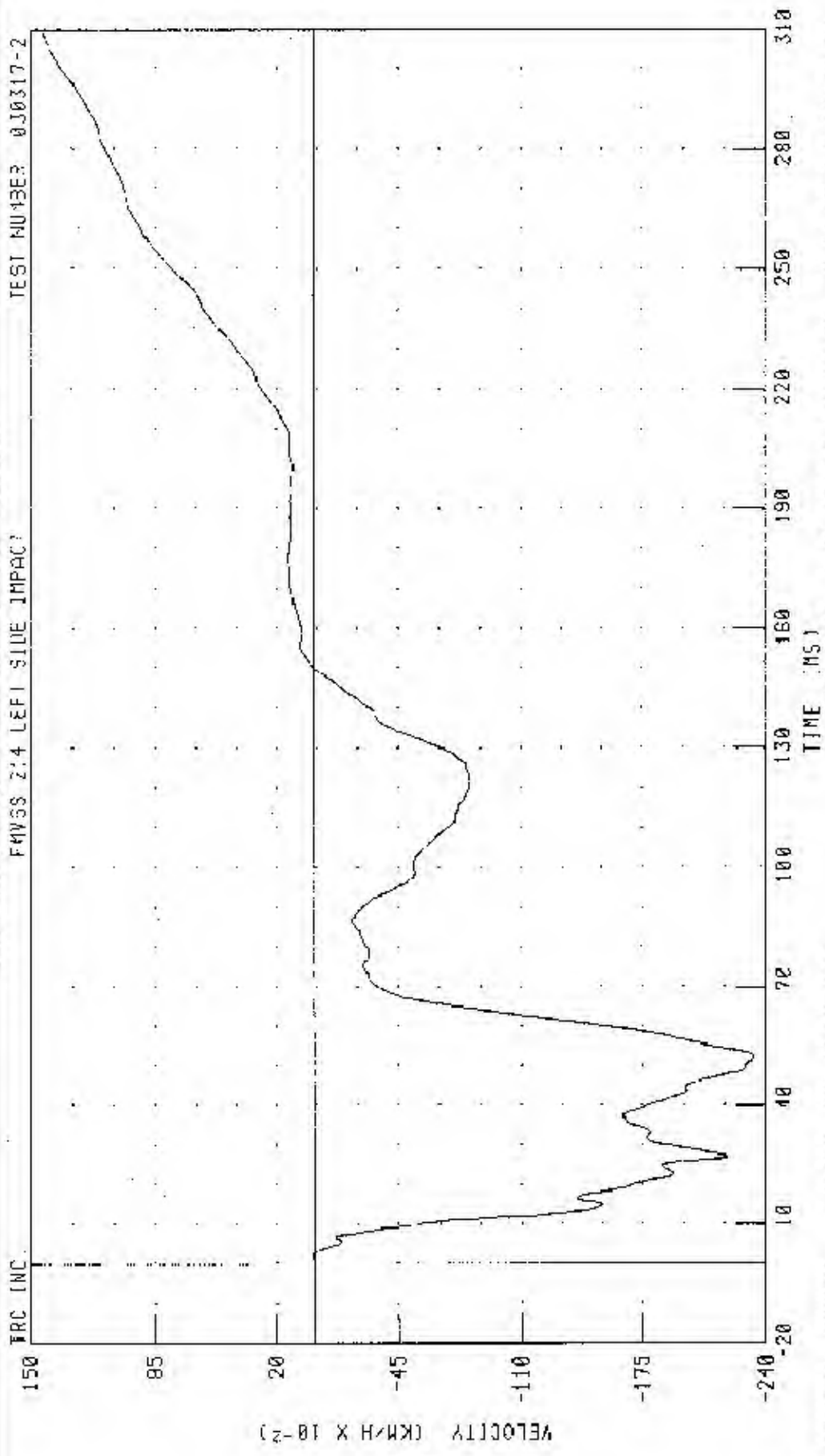


CHANNEL: RRSXC1 FILTER: CH CLASS 60

PEAK DATA 4.62 G @ 62.32 MS, -7.00 G @ 11.28 MS

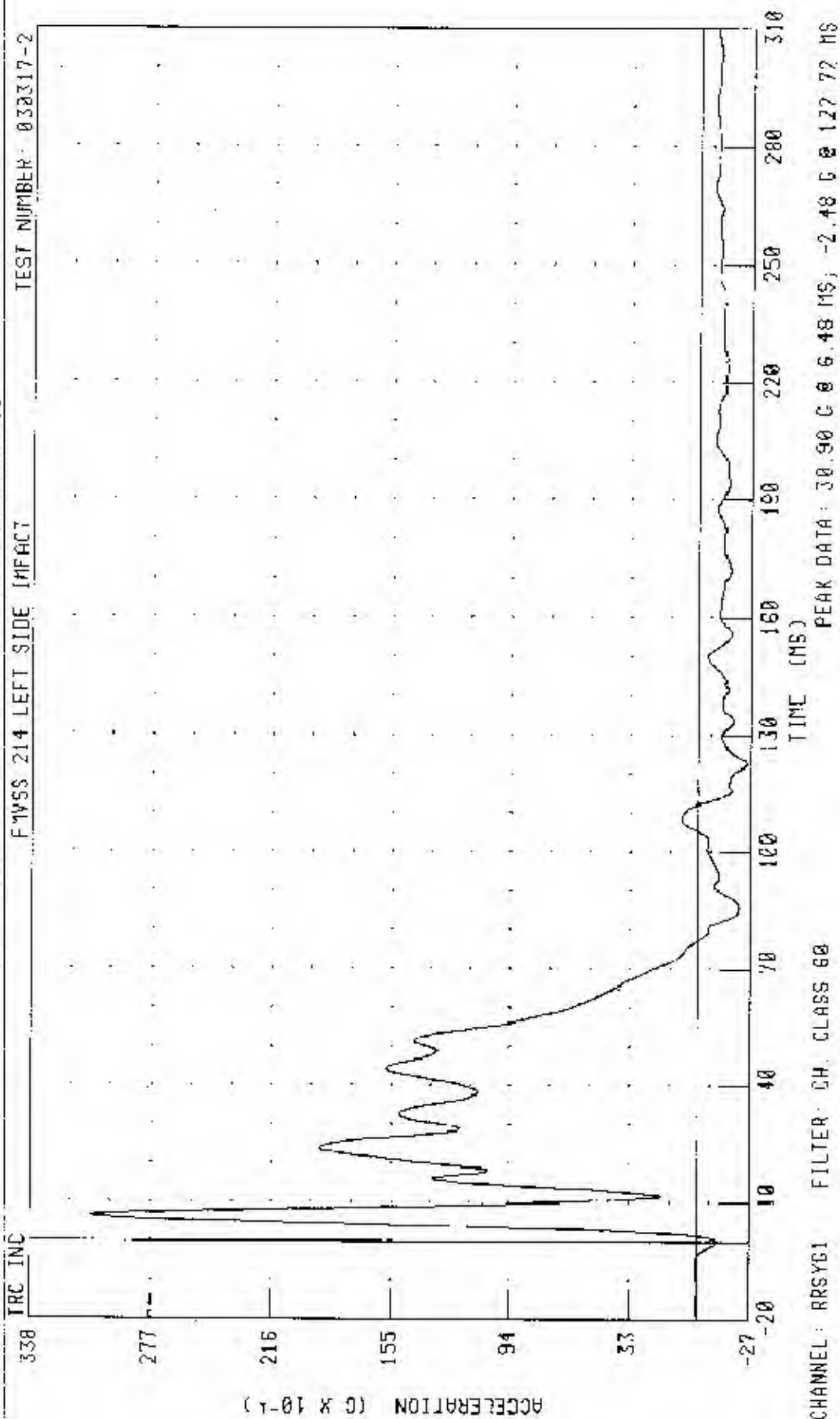
55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 MAZDA 6

RIGHT SIDE SILL AT REAR SEAT X-AXIS VELOCITY



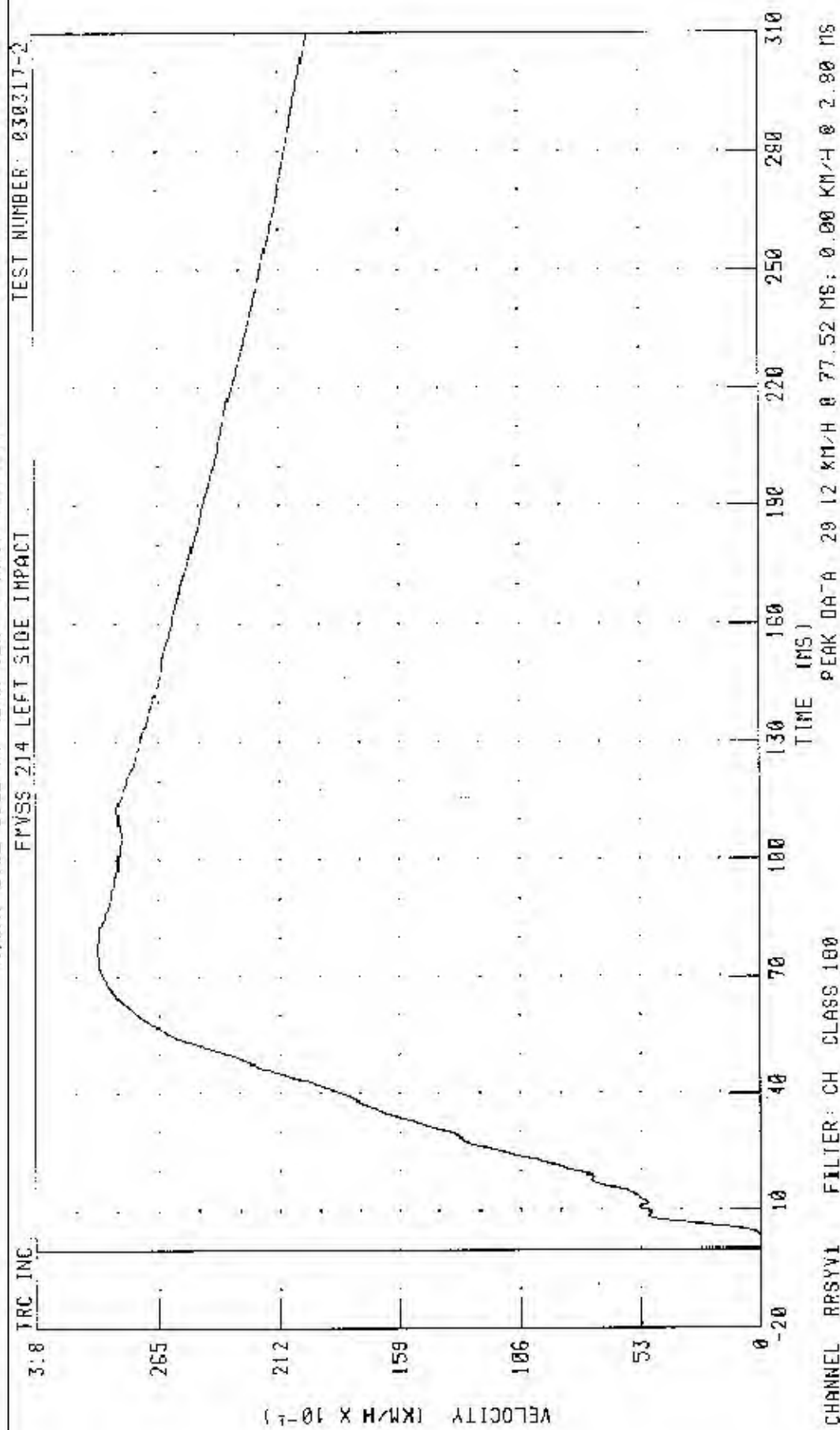
55/28 KPH 90 DEGREE SIDE IMPACT (MOVING OFFROAD: F BARRIER) INID LEFT SIDE CF 2003 MAZDA 6

RIGHT SIDE SILL AT REAR SEAT Y-AXIS ACCELERATION





55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 MAZDA 6  
 RIGHT SIDE SILL AT REAR SEAT Y AXIS VELOCITY



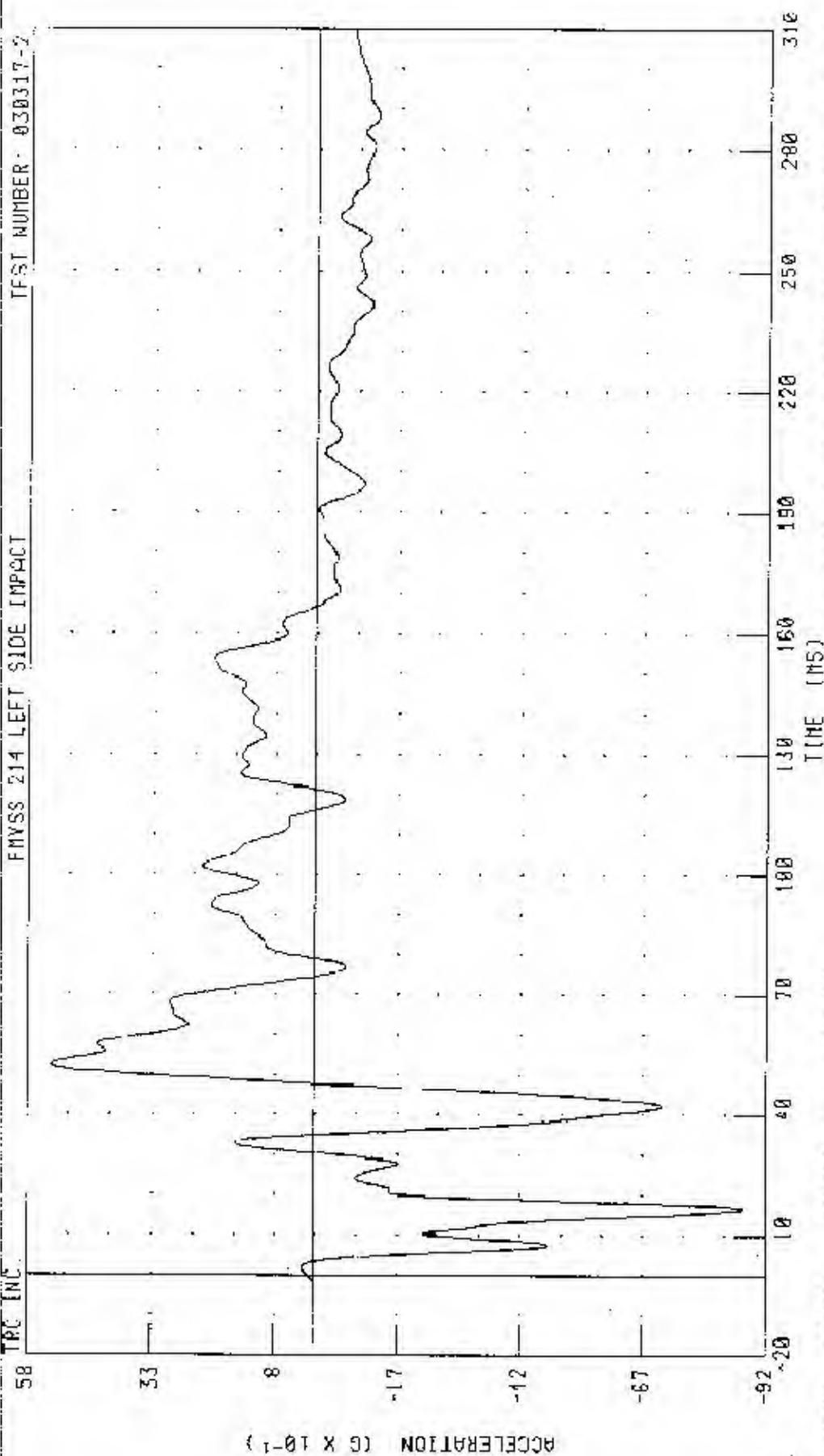
55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 MAZDA 6

RIGHT SIDE SILL AT REAR SEAT Z-AXIS ACCELERATION

TPC INC.

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030317-2

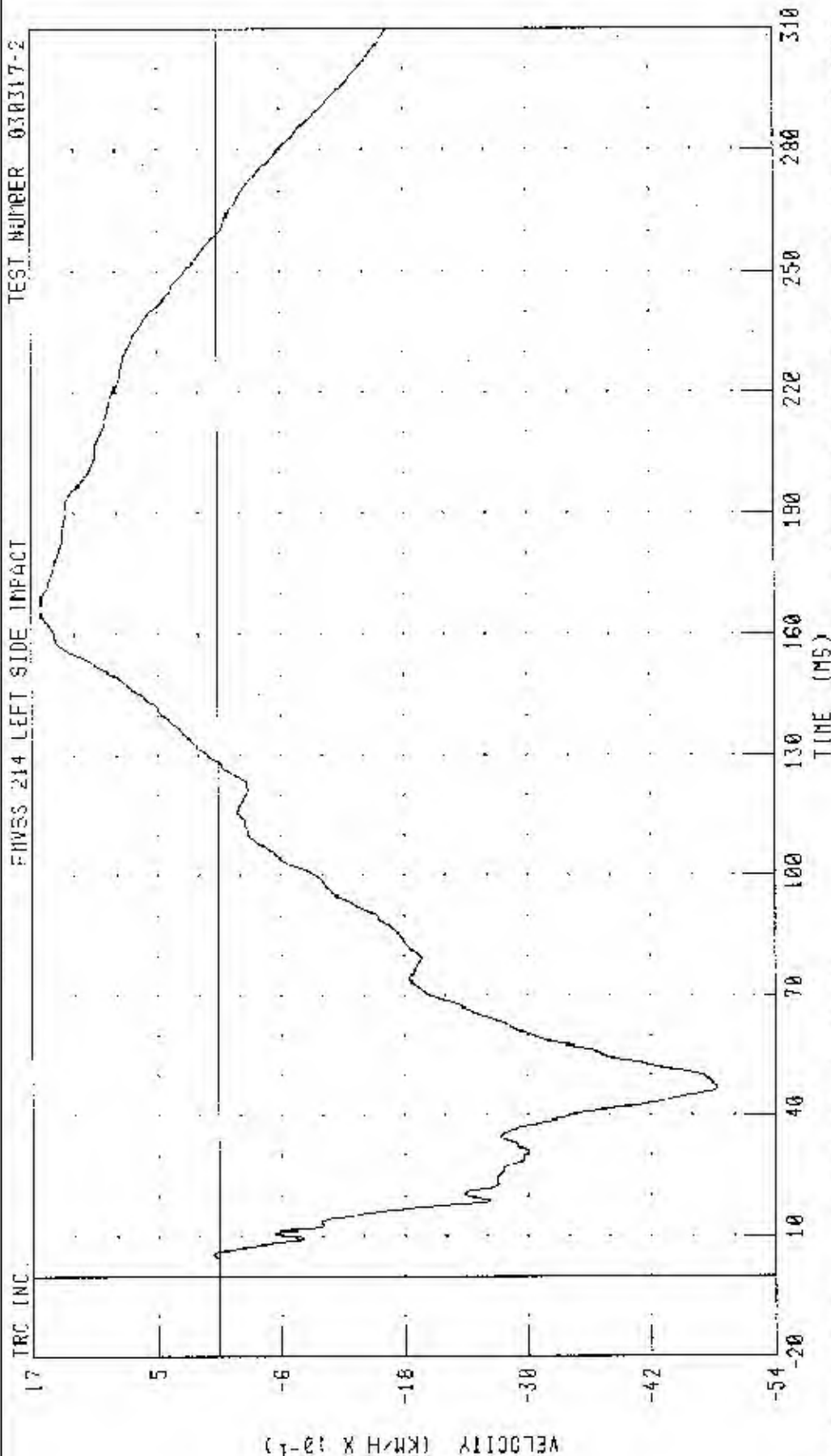


CHANNEL: RRSZ01 FILTER: CH. CLASS 60

PEAK DATA: 5 33 0 0 52.56 MS; -0.74 0 0 16 64 MS

55/28 KPH 30 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 MAZDA 6

RIGHT SIDE CIL AT REAR SEAT 7-AXIS VELOCITY



CHANNEL: RRSZV1 FILTER: CH CLASS 100

PEAK DATA 1.73 KM/H @ 166 40 MS; -4.84 KM/H @ 47 12 MS



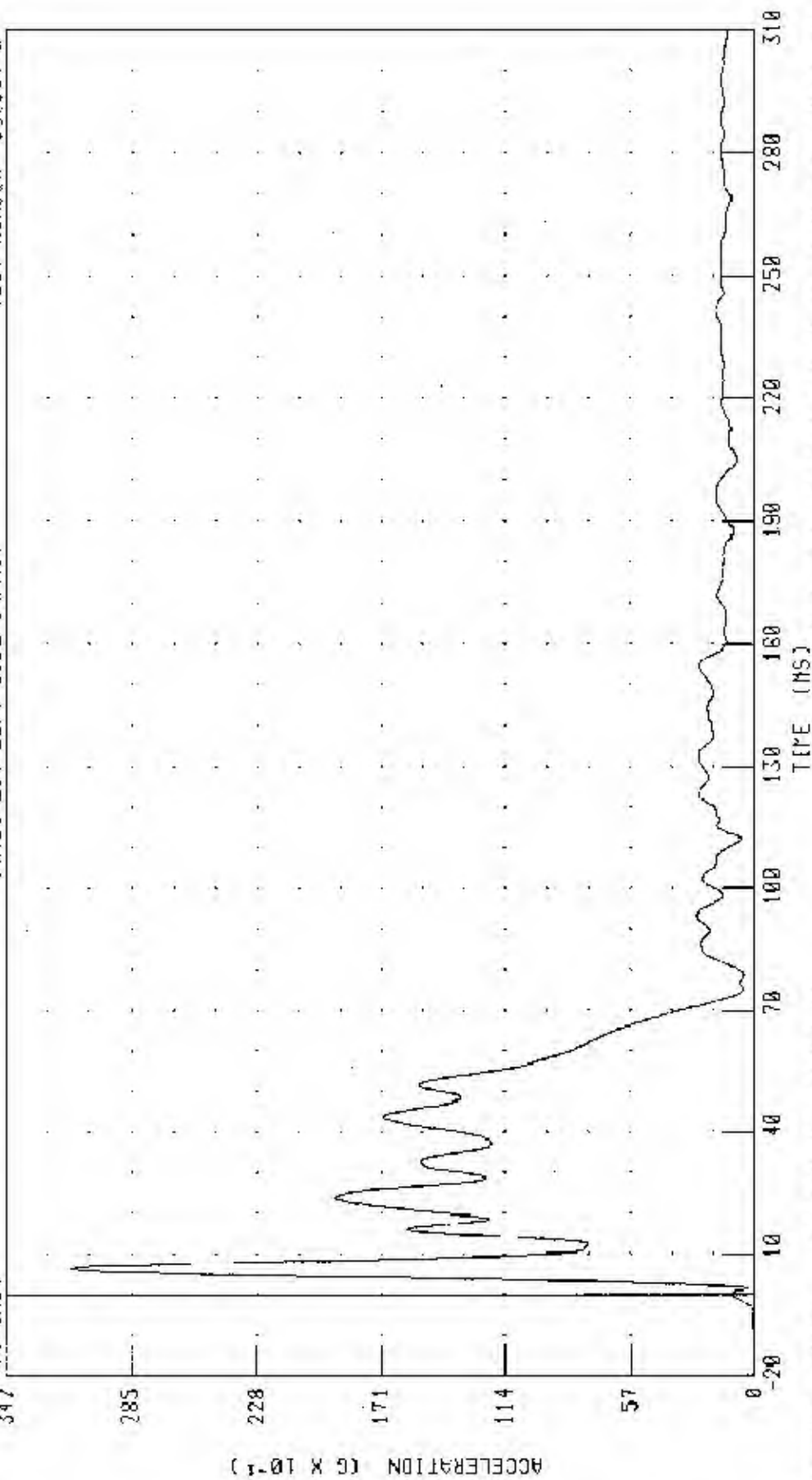
55/28 KPA 90 DEGREE SIDE IMPACT (MOVING OFFSHORE BARRIER) INTO LEFT SIDE OF 2003 M070A 6

RIGHT SIDE SILL AT REAR SEAT RESULTANT ACCELERATION

TRC INC.

FMVSS 214 LEFT SIDE IMPACT

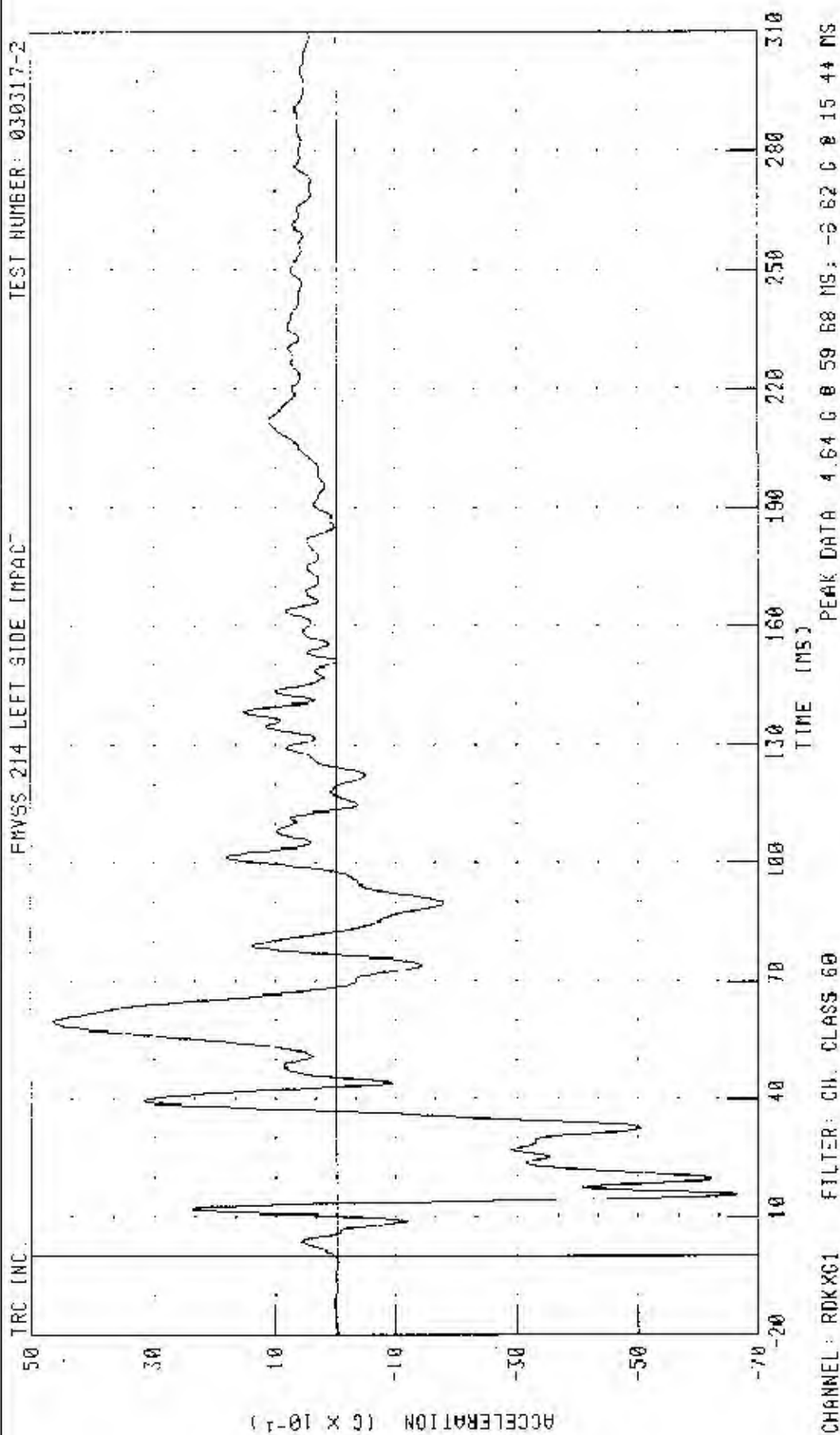
TEST NUMBER: 030317-2



CHANNEL: RRSG1 FILTER: CH CLASS: 60

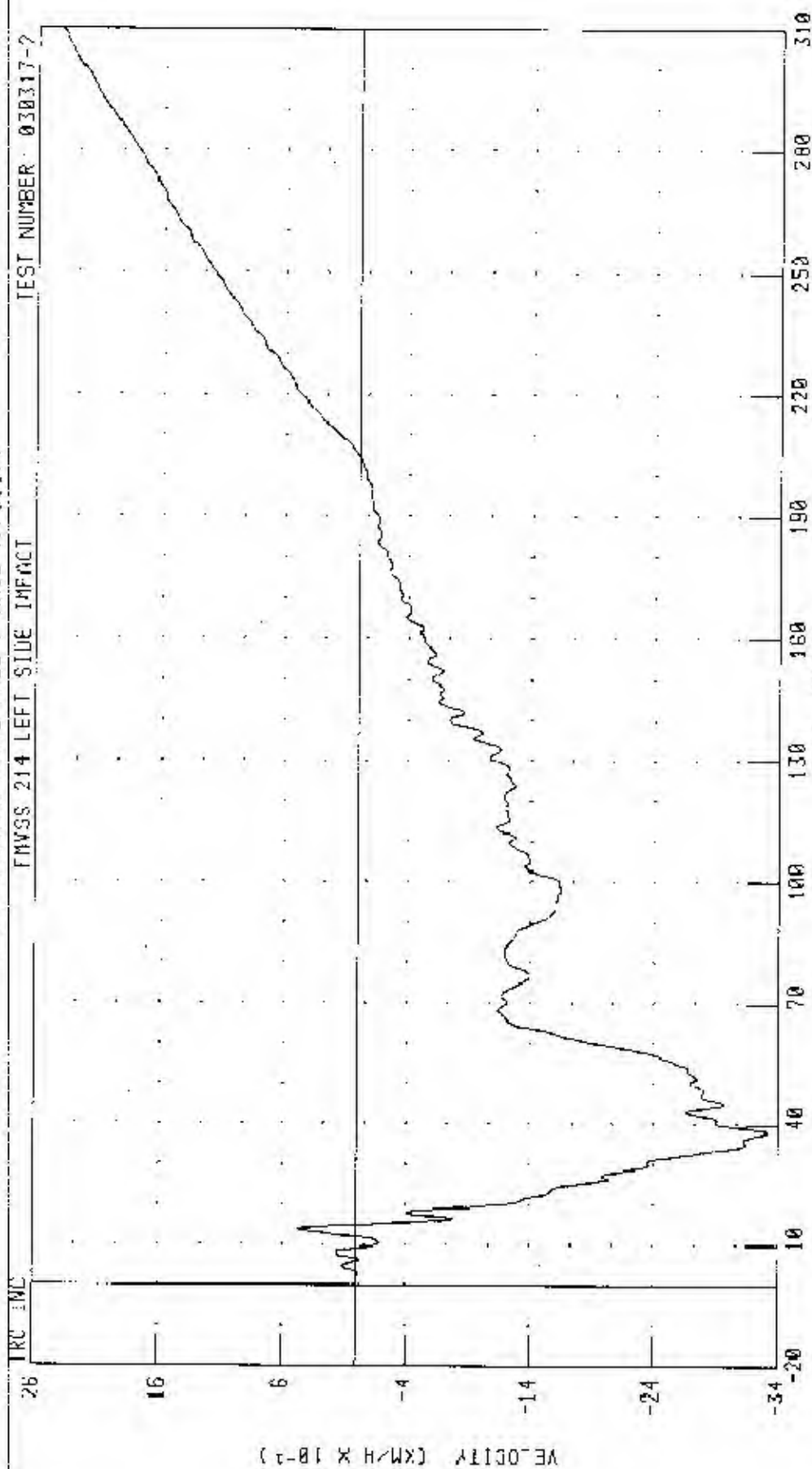
PEAK DATA: 31.22 G @ 6.56 MS, 0.00 G @ -10.64 MS

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 1983 MAZDA 6  
 REAR FLOORPAN ABOVE AXLE X AXIS ACCELERATION



55/28 <PI> 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 200S MA70A 6

R=0R FLOORPAN ABOVE AXLE X-AXIS VELOCITY



CHANNEL: RUKXV1 FILTER: CH. CLASS 180

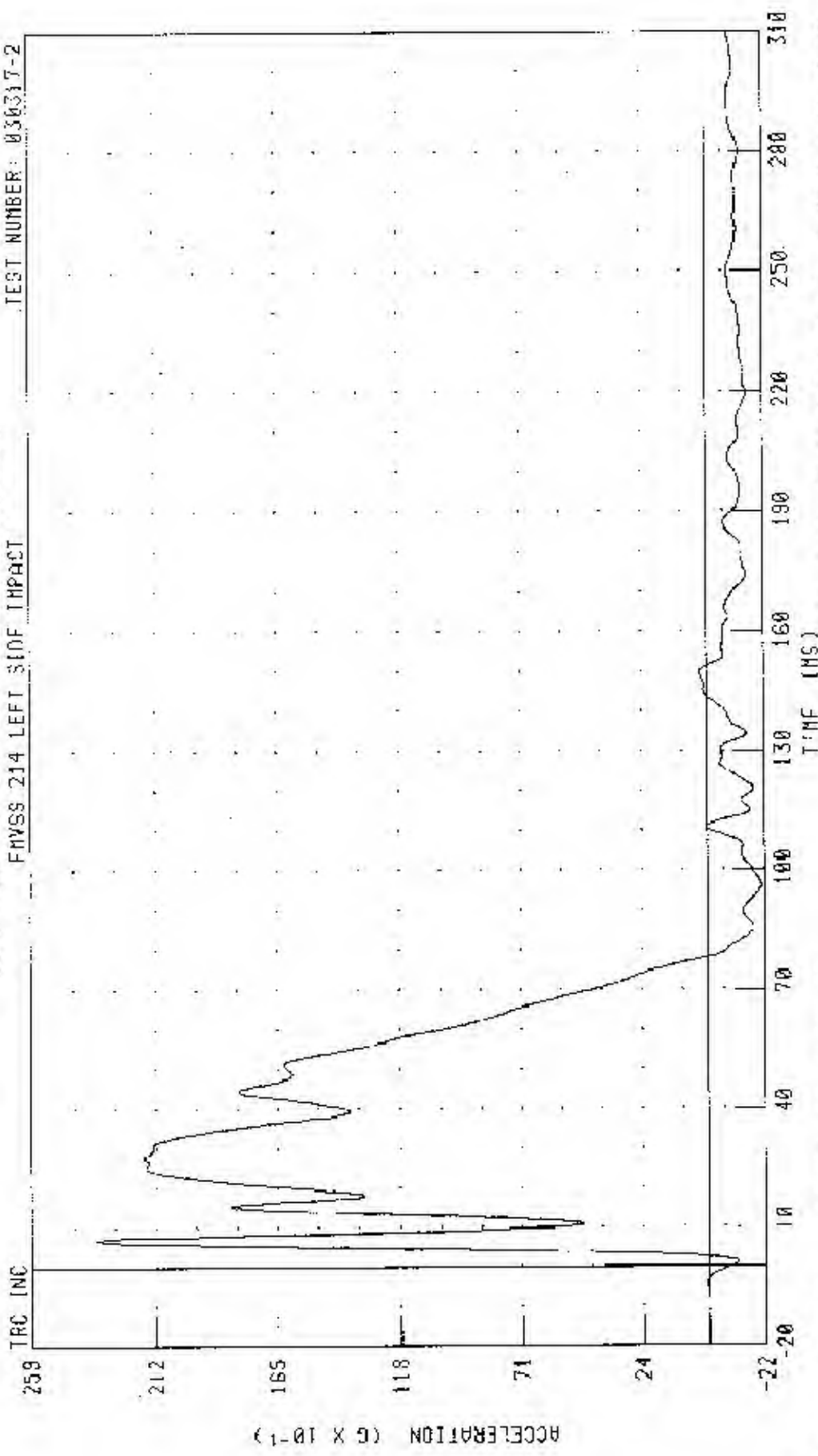
PEAK DATA: 2.41 KM/H @ 310.00 MS; -3.32 KM/H @ 38.16 MS



55/28 KPH 90 DEGRFF SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 MA7DA R  
 REAR FLOORPAN ABOVE AXLE Y-AXIS ACCELERATION

TEST NUMBER: 030317-2

FMVSS 214 LEFT SIDE IMPACT



PEAK DATA: 23.59 G @ 6.72 MS; -2.07 G @ 96.00 MS

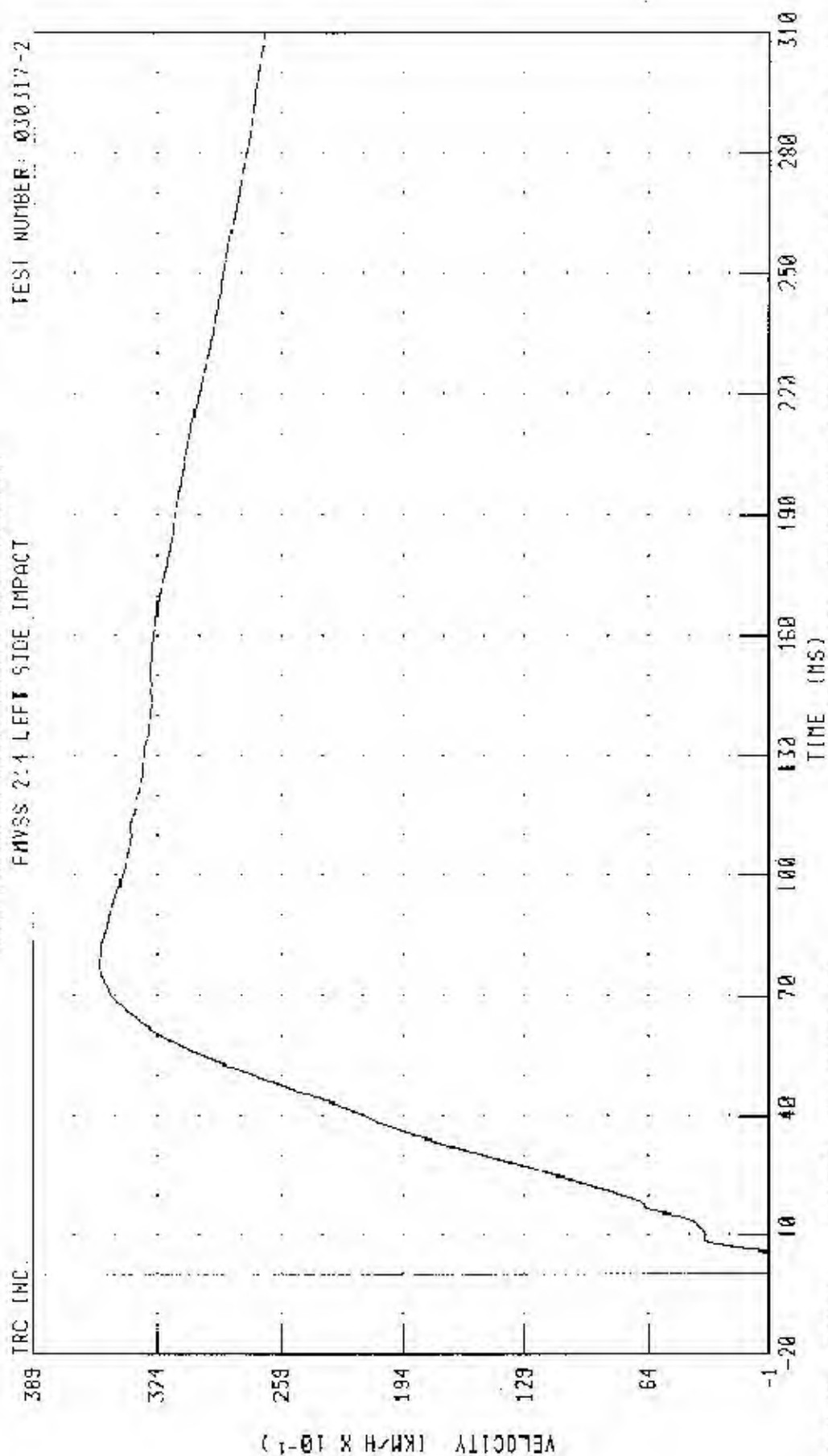
CHANNEL: ROKY01 FILTER: CH, CLASS 60

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 MAZDA 6

REAR FLOORPAN ABOVE AXLE Y-AXIS VELOCITY

FMVSS 224 LEFT SIDE IMPACT

TEST NUMBER: 030317-2



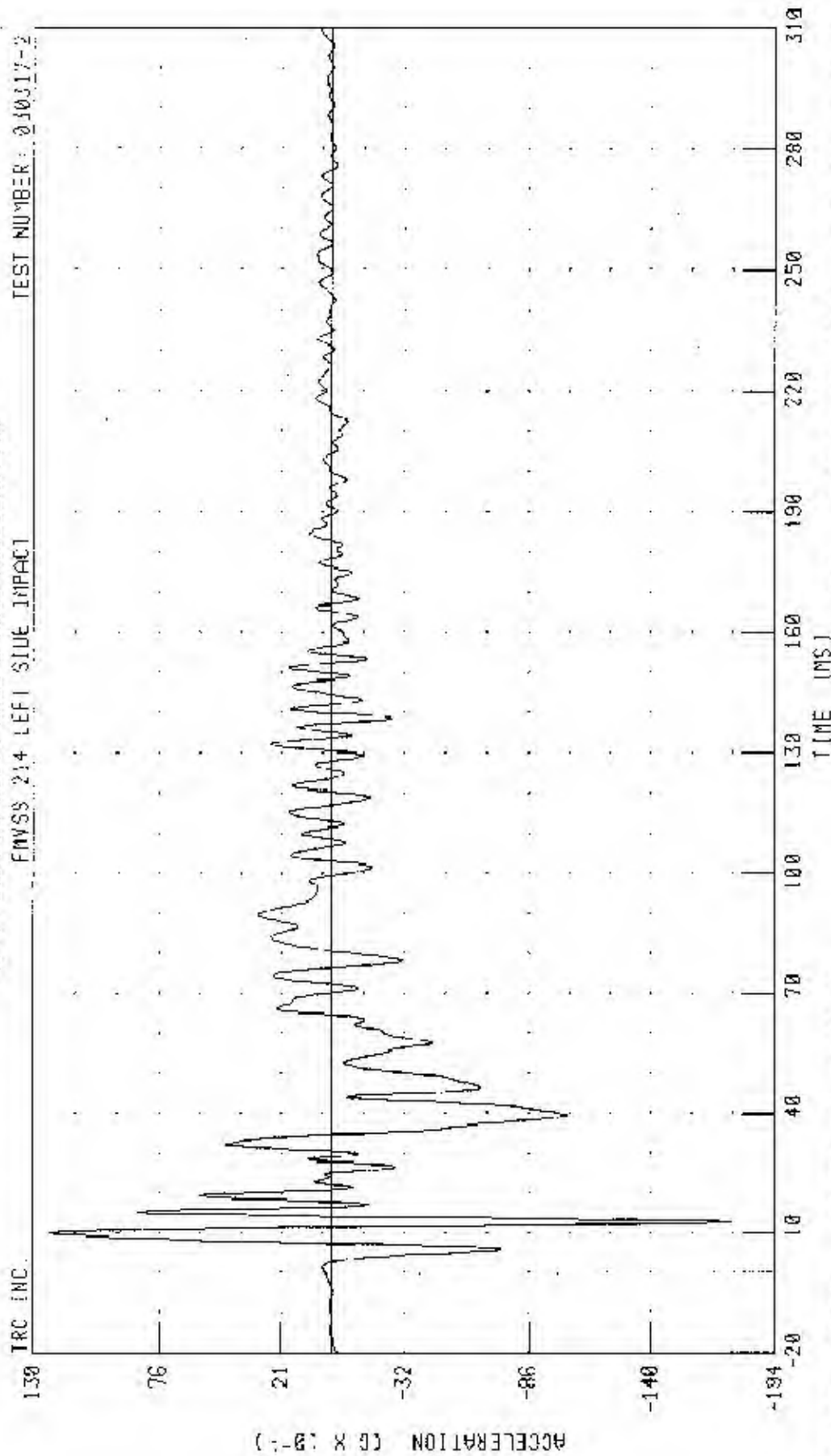
CHANNEL: RDXV1 FILTER: CH. CLASS 180

PEAK DATA: 35.46 KM/H @ 77.60 MS; -0.16 KM/H @ +56 MS

55/23 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 MAZDA 6

REAR FLOORPAN ABOVE AXLE Z AXIS ACCELERATION

TEST NUMBER: 030317-2



CHANNEL: RDKZG1 FILTER: CH CLASS 60

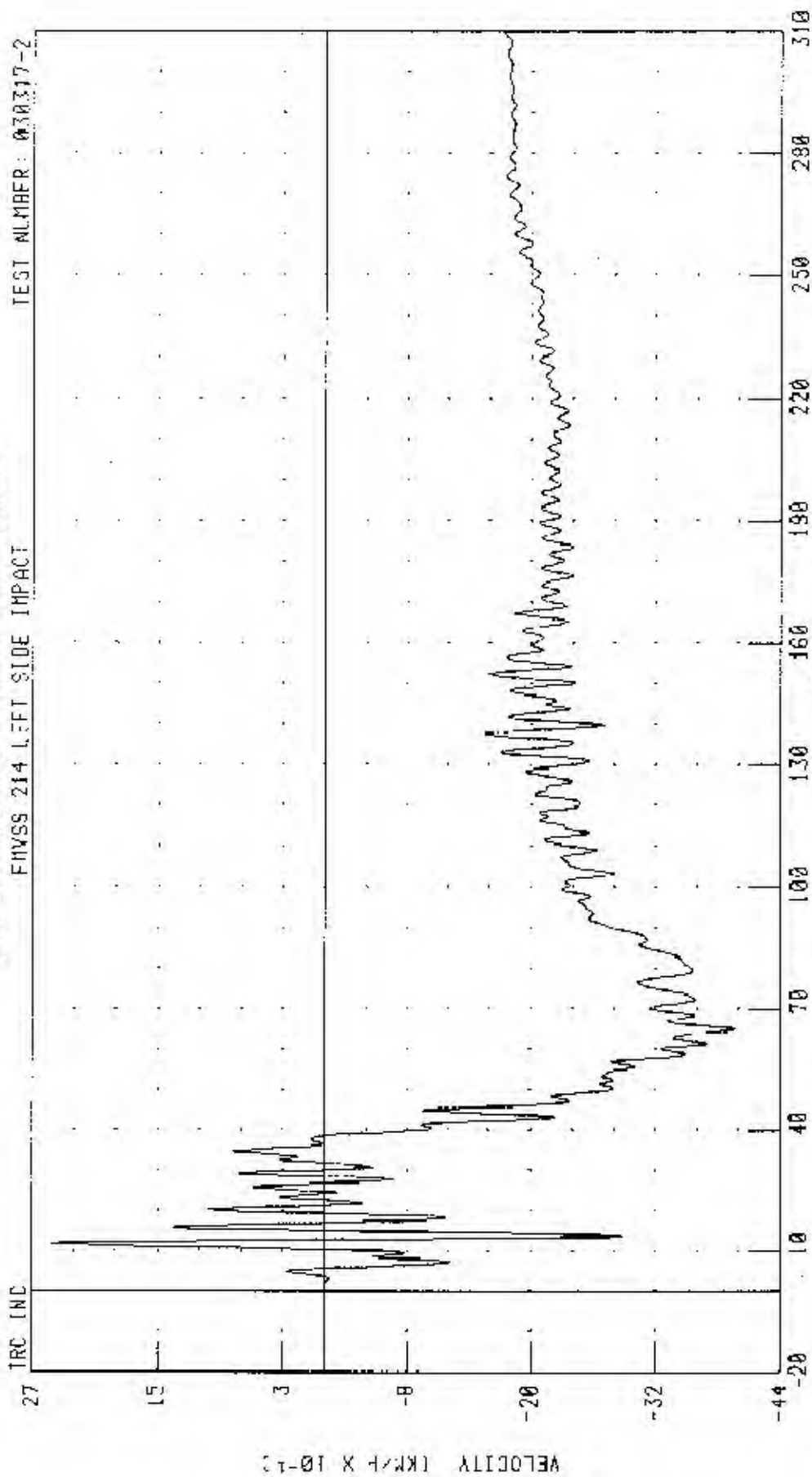
PEAK DATA: 12.32 G @ 10.00 MS, -17.58 G @ 17.88 MS



55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 MAZDA 6  
 REAR FLOORPAN ABOVE AXLE Z-AXIS VELOCITY

TEST NUMBER: 030317-2

ENVSS 214 LEFT SIDE IMPACT



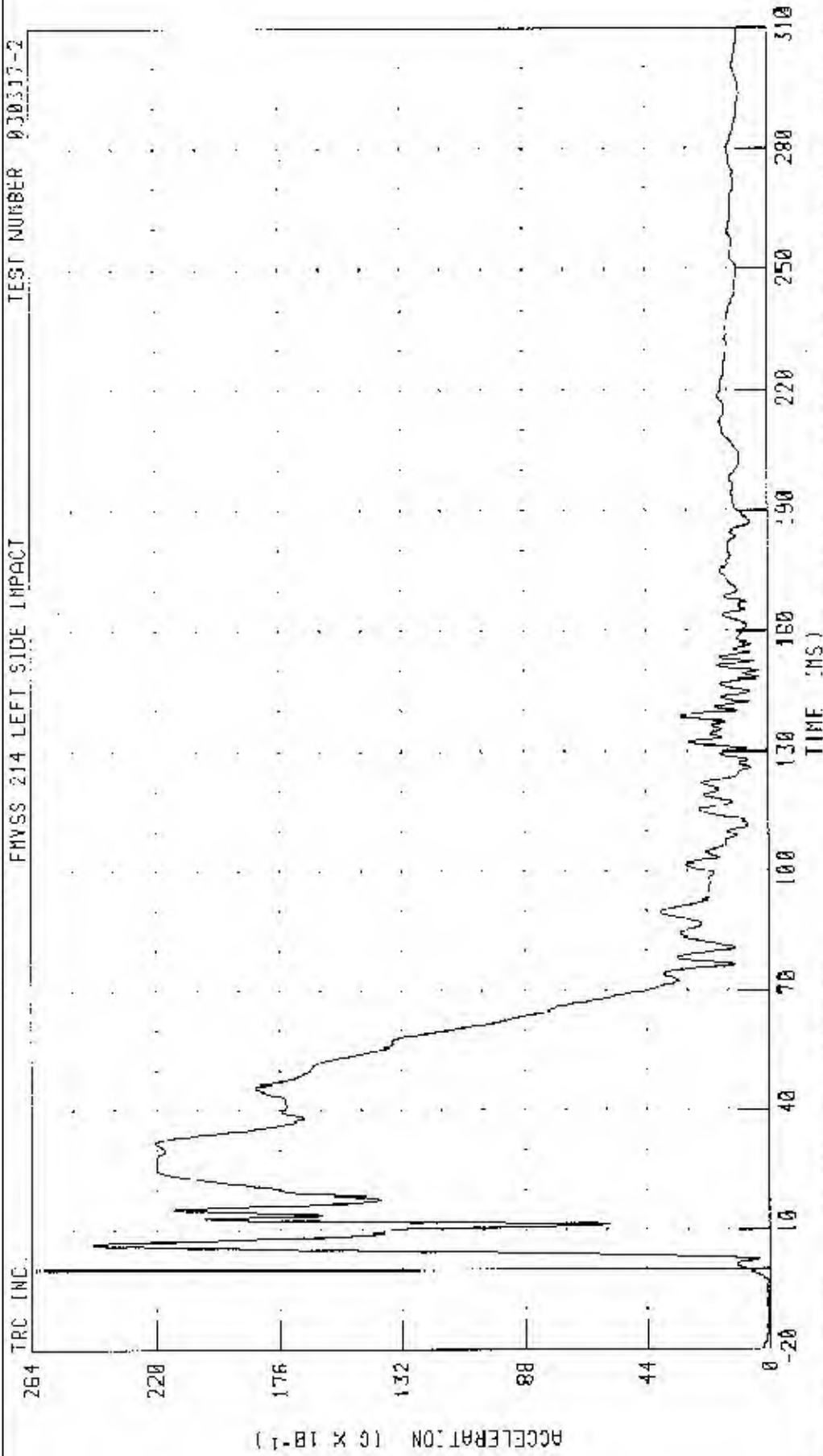
TIME (MS)

PEAK DATA: 2 63 KPH/H @ 11.92 MS, -3 96 KPH/H @ 64.96 MS

CHANNEL: RDKZY1 FILTER: CH. CLASS 100

55/28 MPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 MAZDA 6

REAR FLOORPAN ABOVE AXLE RESULTANT ACCELERATION



CHANNEL: R0KRC; FILTER: CH. CLASS 60

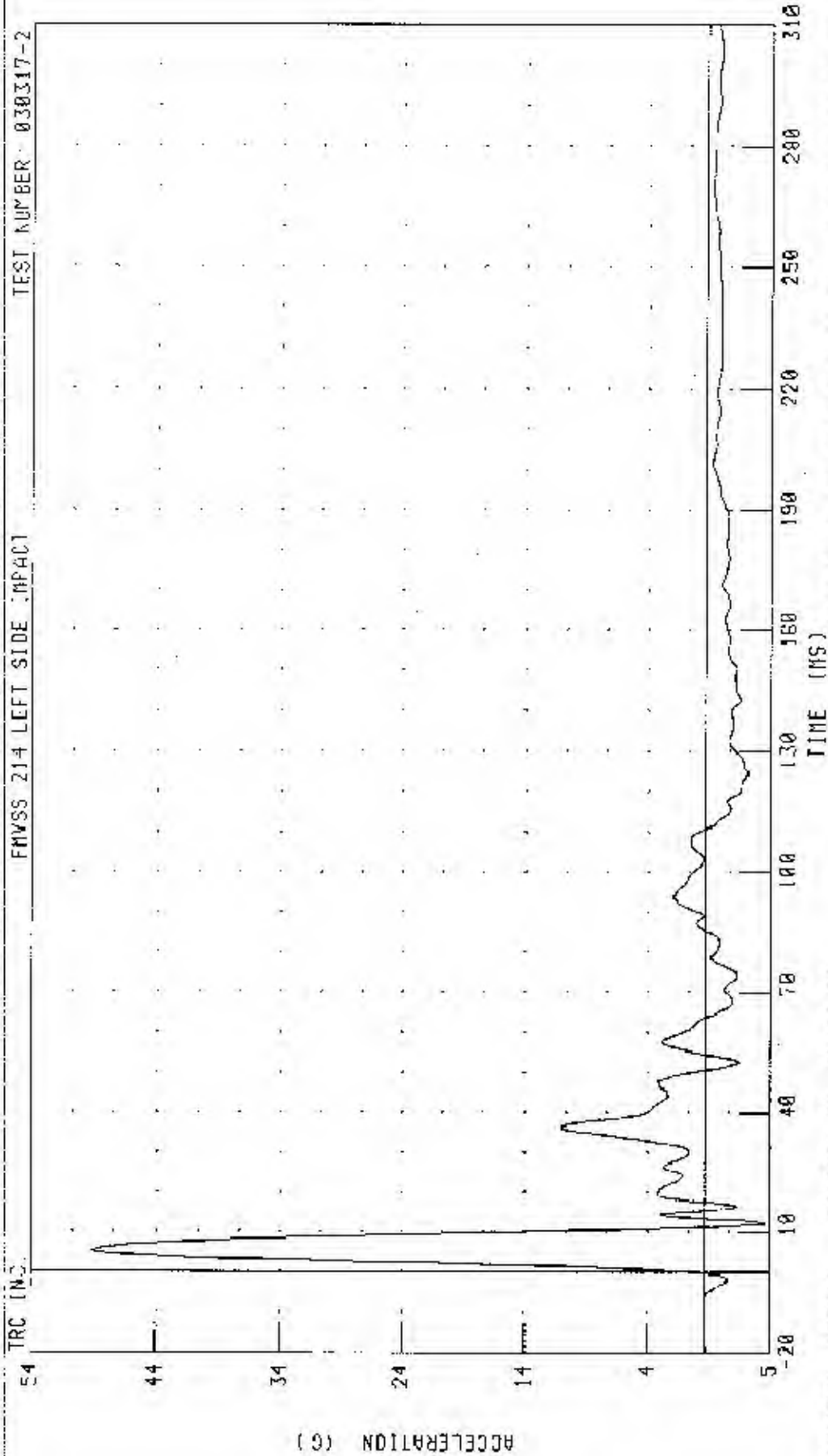
PEAK DATA: 21.27 G @ 6.64 MS, 0.01 G @ 10.16 MS

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 MAZDA C

LEFT SIDE SILL AT FRONT SEAT Y-AXIS ACCELERATION

TEST NUMBER: 030317-2

FMVSS 214 LEFT SIDE IMPACT

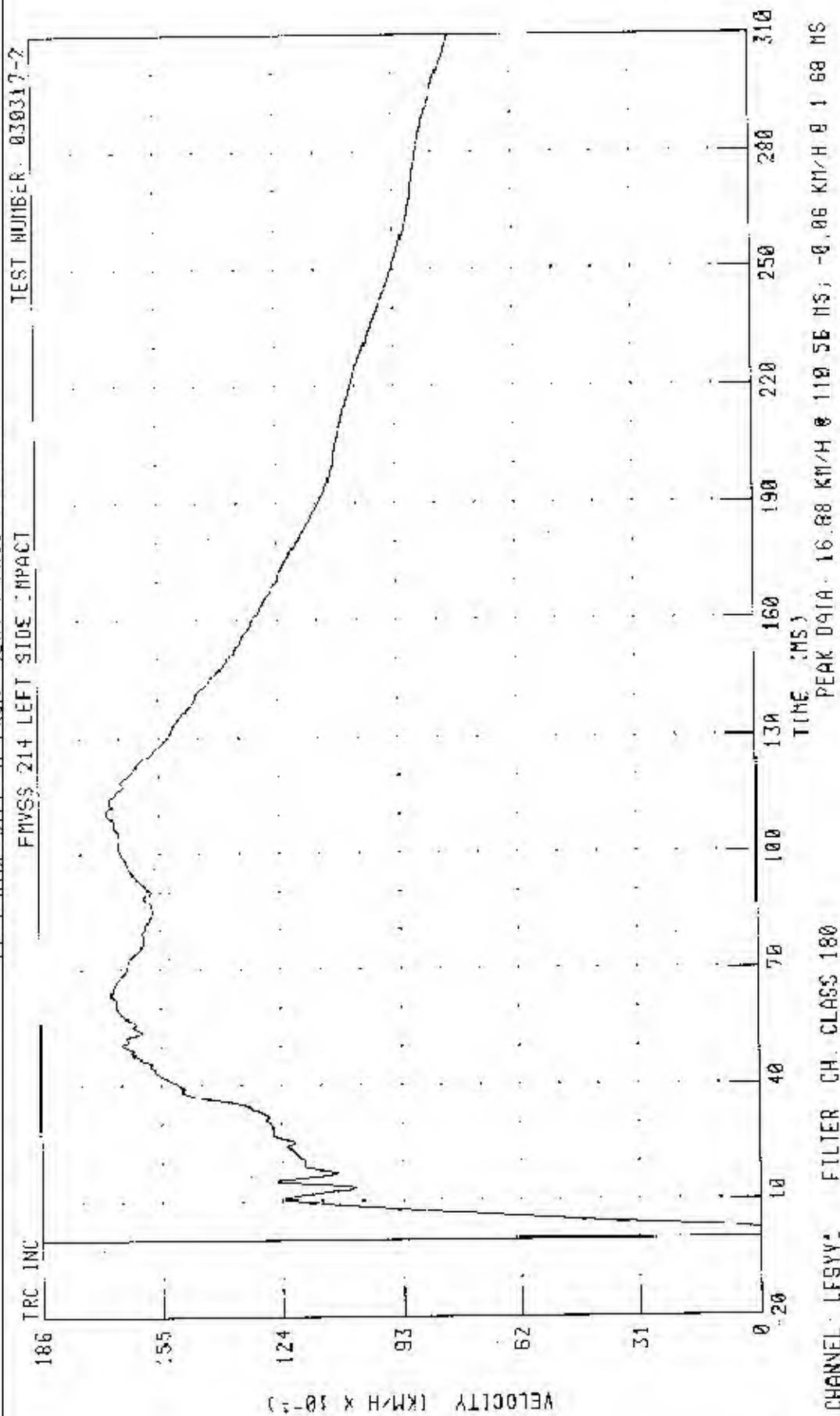


CHANNEL: LFSYC1 FILTER: CH. CLASS 60

PEAK DATA 49.96 G @ 5.44 MS, -4.78 G @ 12.24 MS

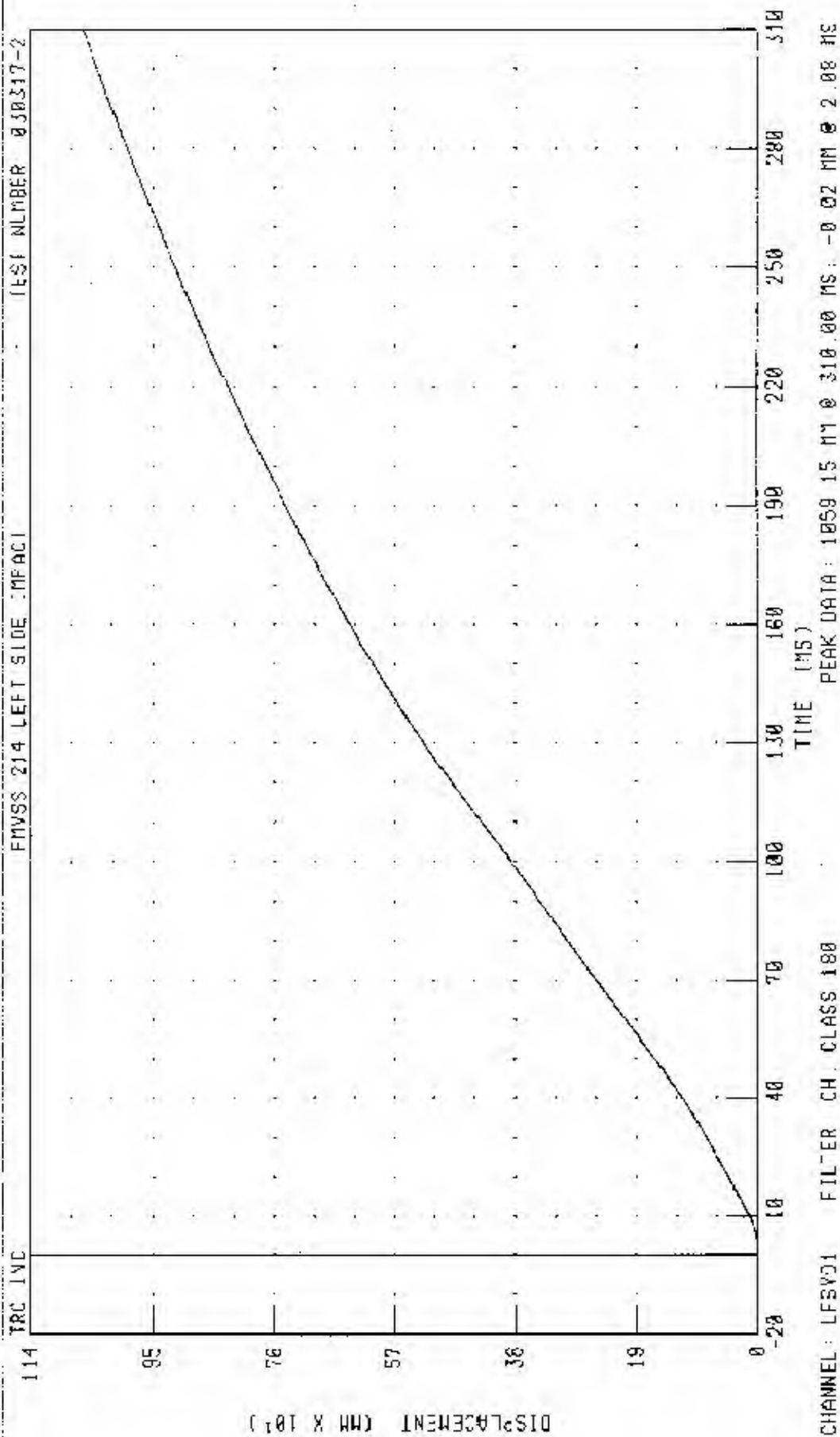


55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 MAZDA 6  
 LEFT SIDE SILL AT FRONT SEAT Y-AXIS VELOCITY

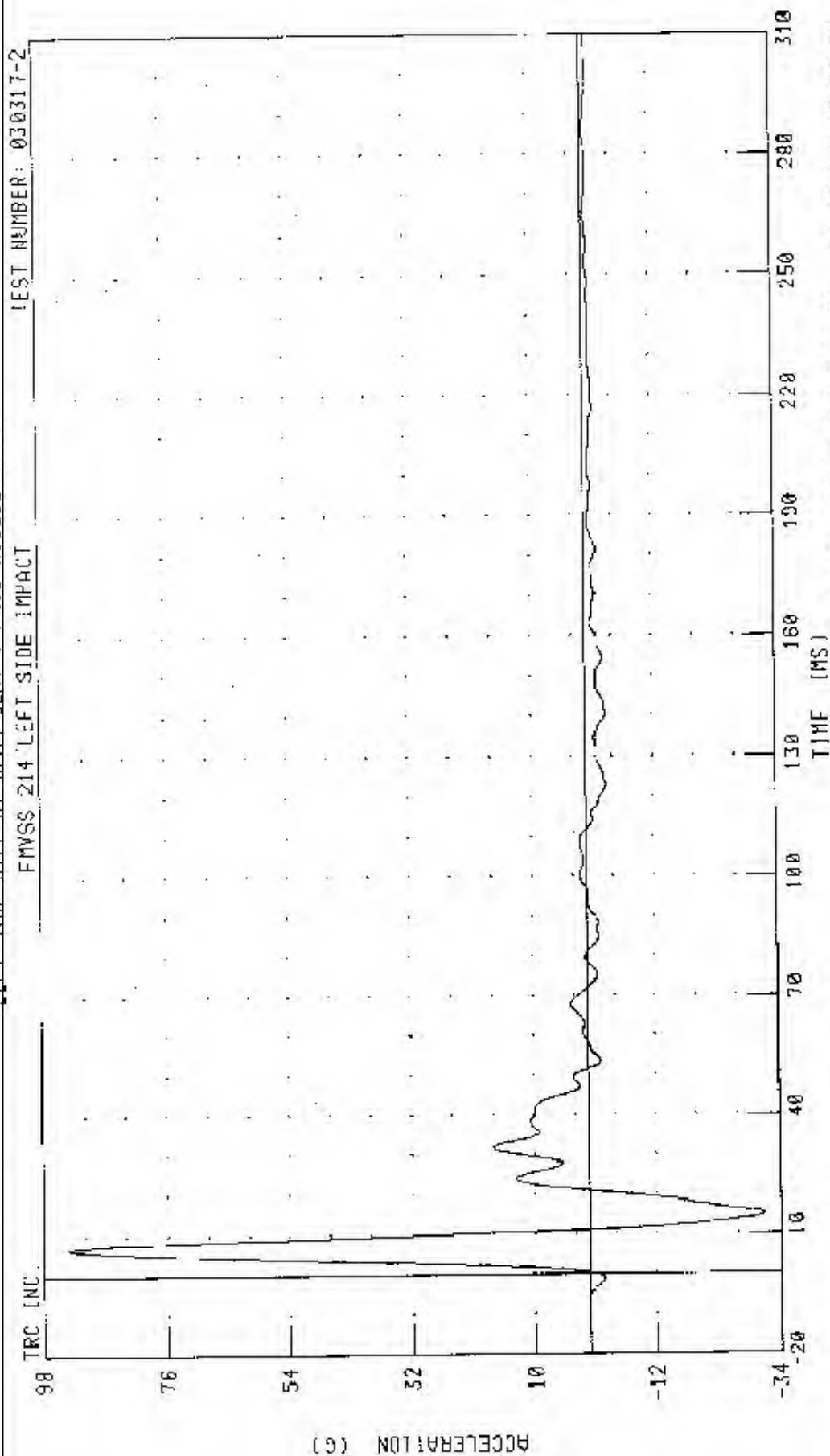


55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 MAZDA 6

LEFT SIDE SILL AT FRONT SEAT Y-AXIS DISPLACEMENT



35/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 MAZDA 6  
LEFT SIDE SILL AT REAR SEAT Y-AXIS ACCELERATION

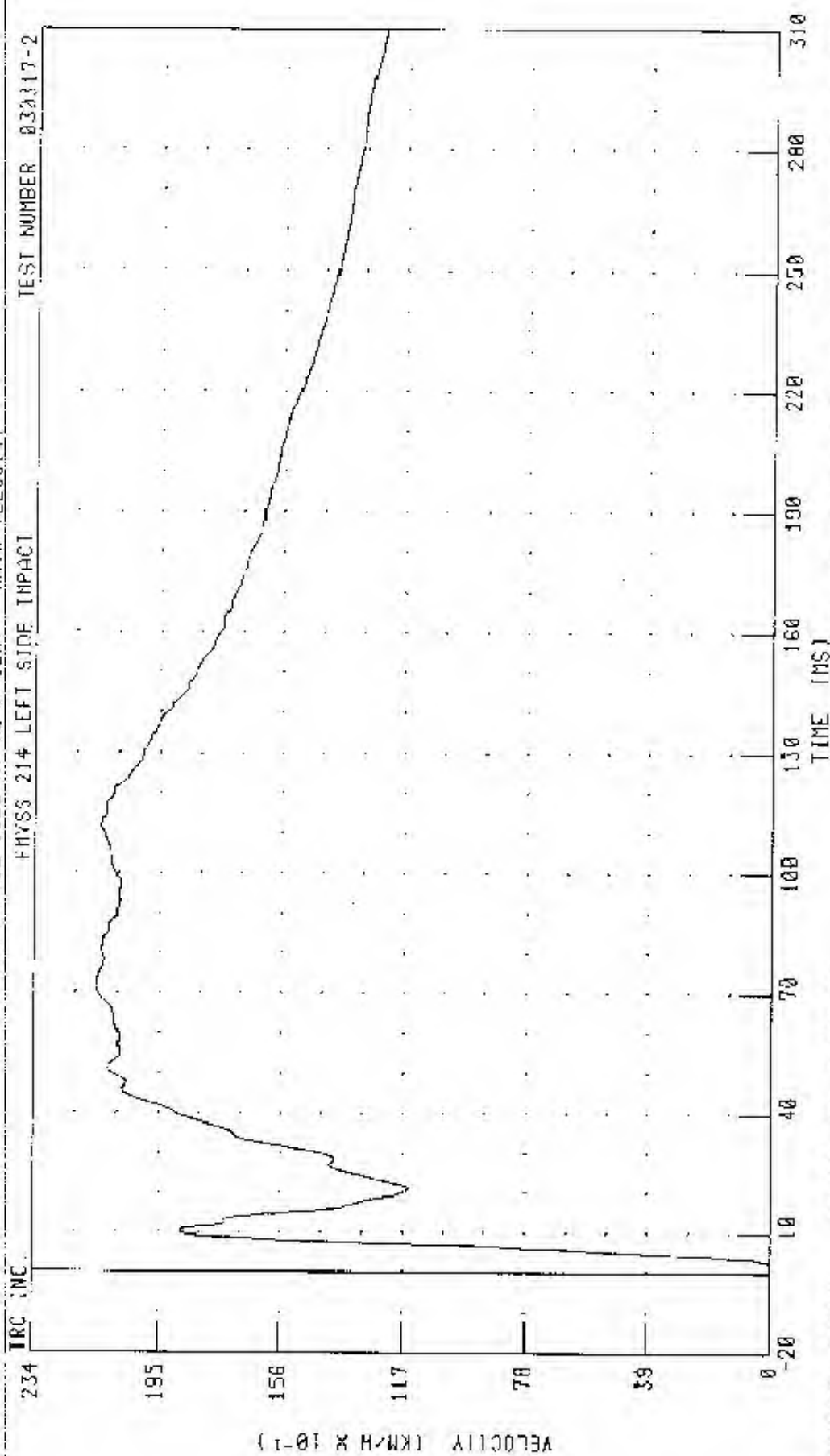


CHANNEL: LRSVC: FILTER: CH. CLASS 60 PEAK DATA: 93.51 G @ 6.96 MS. -31.47 G @ 15.04 MS



55/28 KPH 90 DEGREE SIDE IMPACT MOVING DEFORMABLE BARRIER INTO LEFT SIDE OF 2003 MAZDA 6

LEFT SIDE SILL AT REAR SEAT V-AXIS VELOCITY

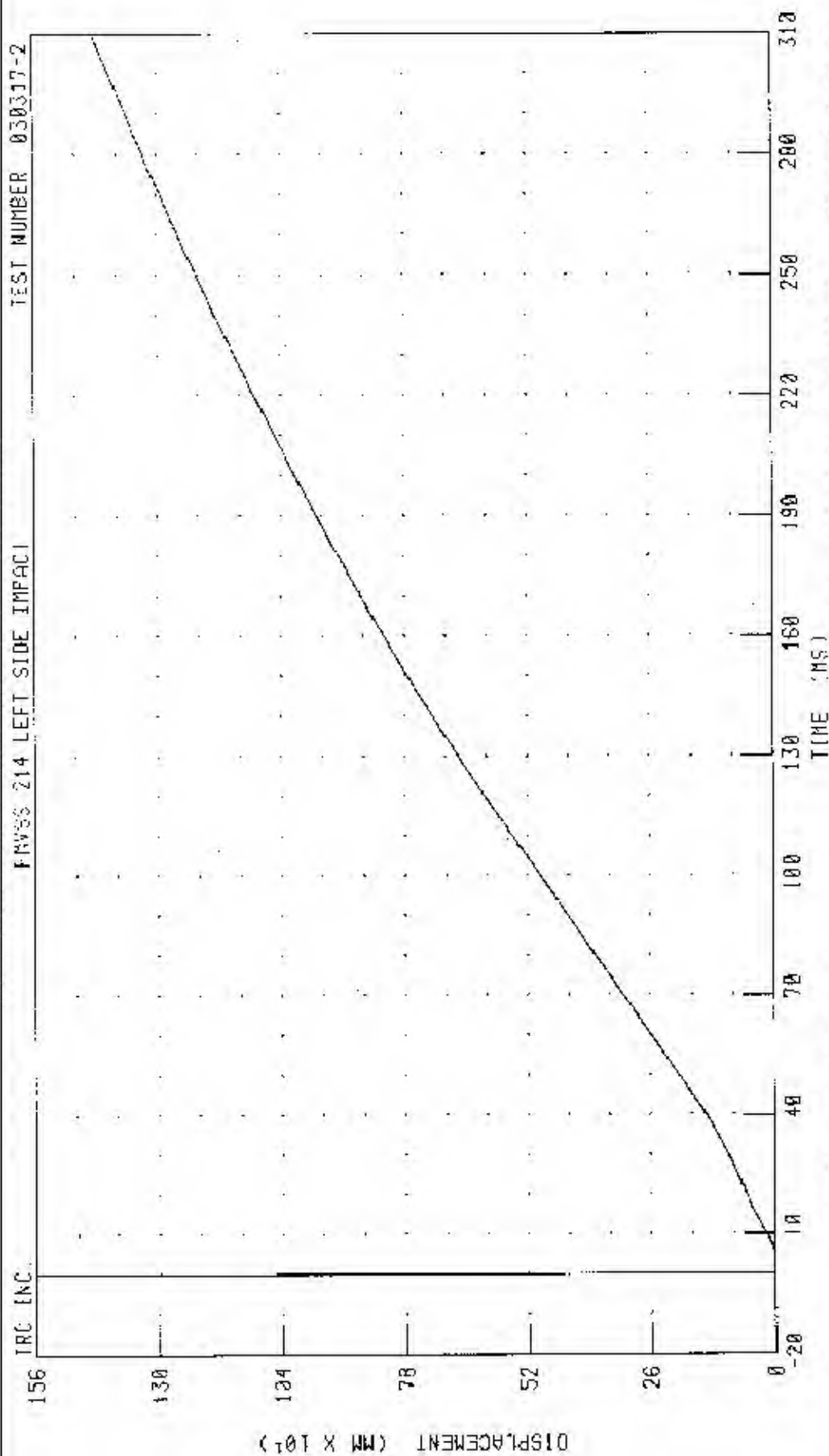


CHANNEL LRSYV1 FILTER CUE CLASS 180

PEAK DATA 21.48 KM/H @ 71.44 MS, -0.03 KM/H @ 1.76 MS

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 MAZDA 6

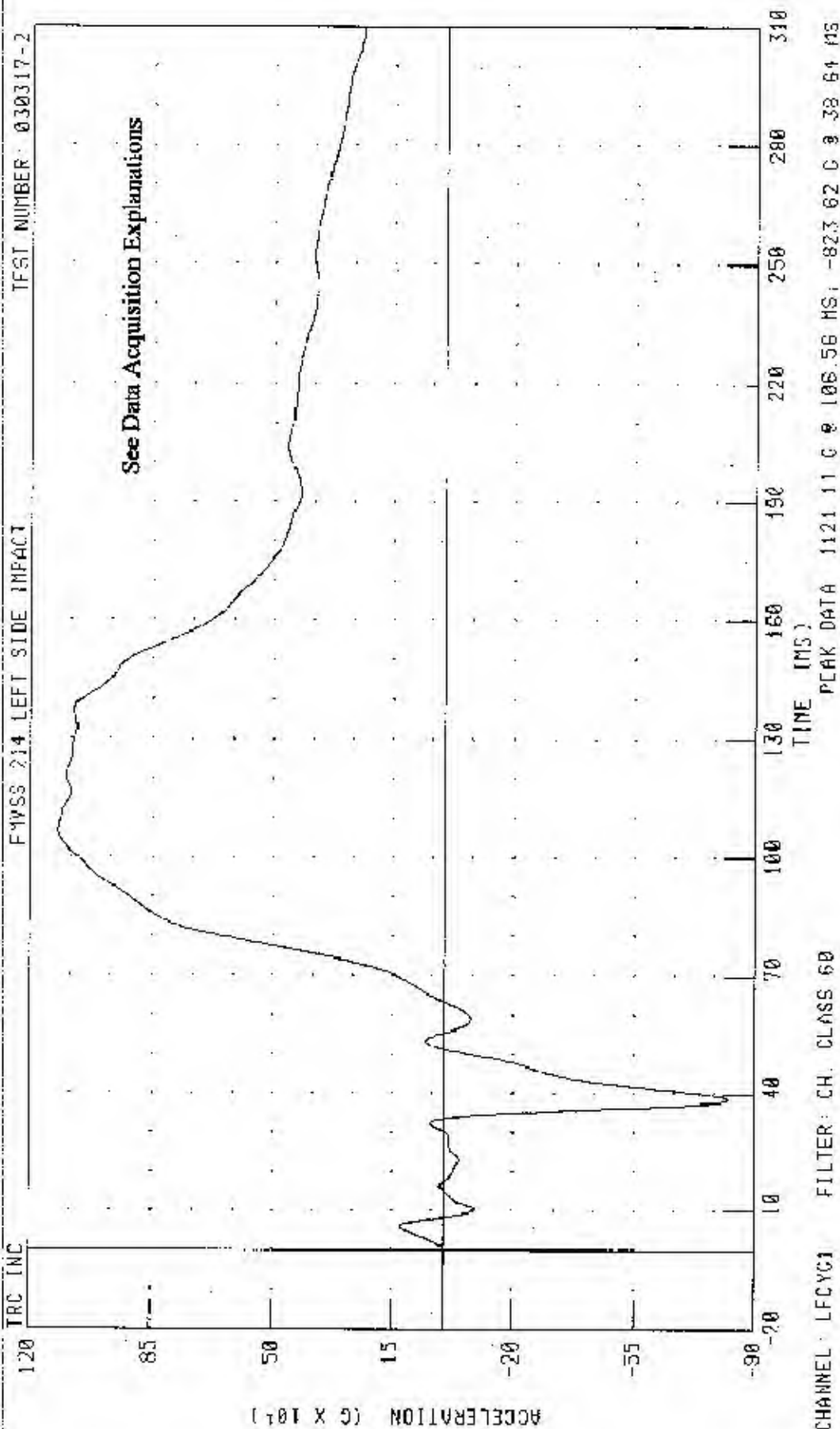
LEFT SIDE SILL AT REAR SEAT Y-AXIS DISPLACEMENT



CHANNEL: LRSY01 FILTER CH. CLASS 180

PEAK DATA: 1435.46 MM @ 310.00 MS, -0.01 MM @ 2.24 MS

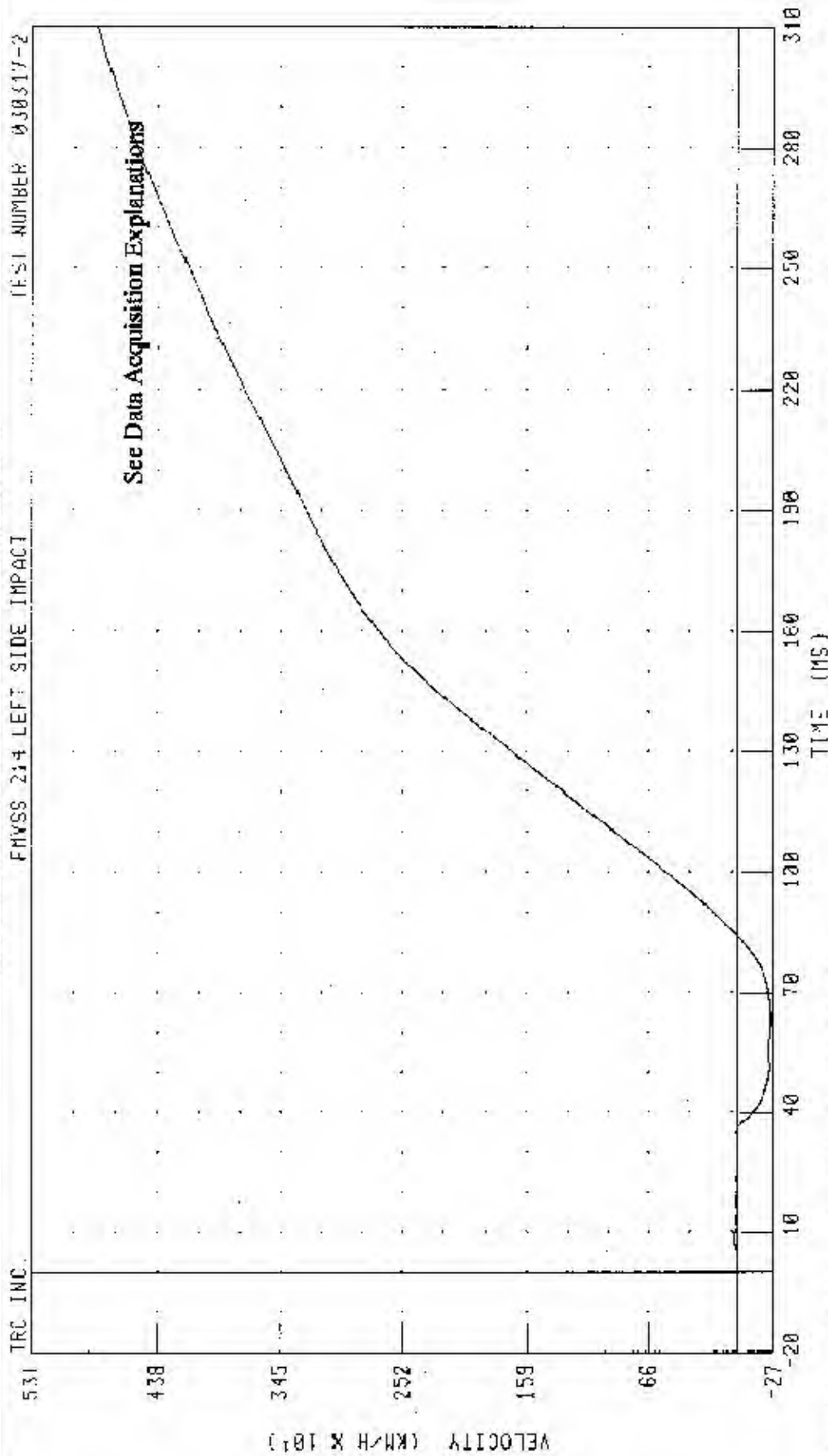
55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 MAZDA 6  
 LEFT FRONT DOOR ON CENTER LINE Y AXIS ACCELERATION



CHANNEL: LFCYC1 FILTER: CH. CLASS 60



55/28 KPH 30 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 MAZDA 6  
LEFT FRONT DOOR ON CENTERLINE Y-AXIS VELOCITY



CHANNEL: \_FCYV1 FILTER: CH. CLASS 180 PEAK DATA 4325.54 KM/H @ 310 00 MS; -252 90 KM/H @ 63 28 MS

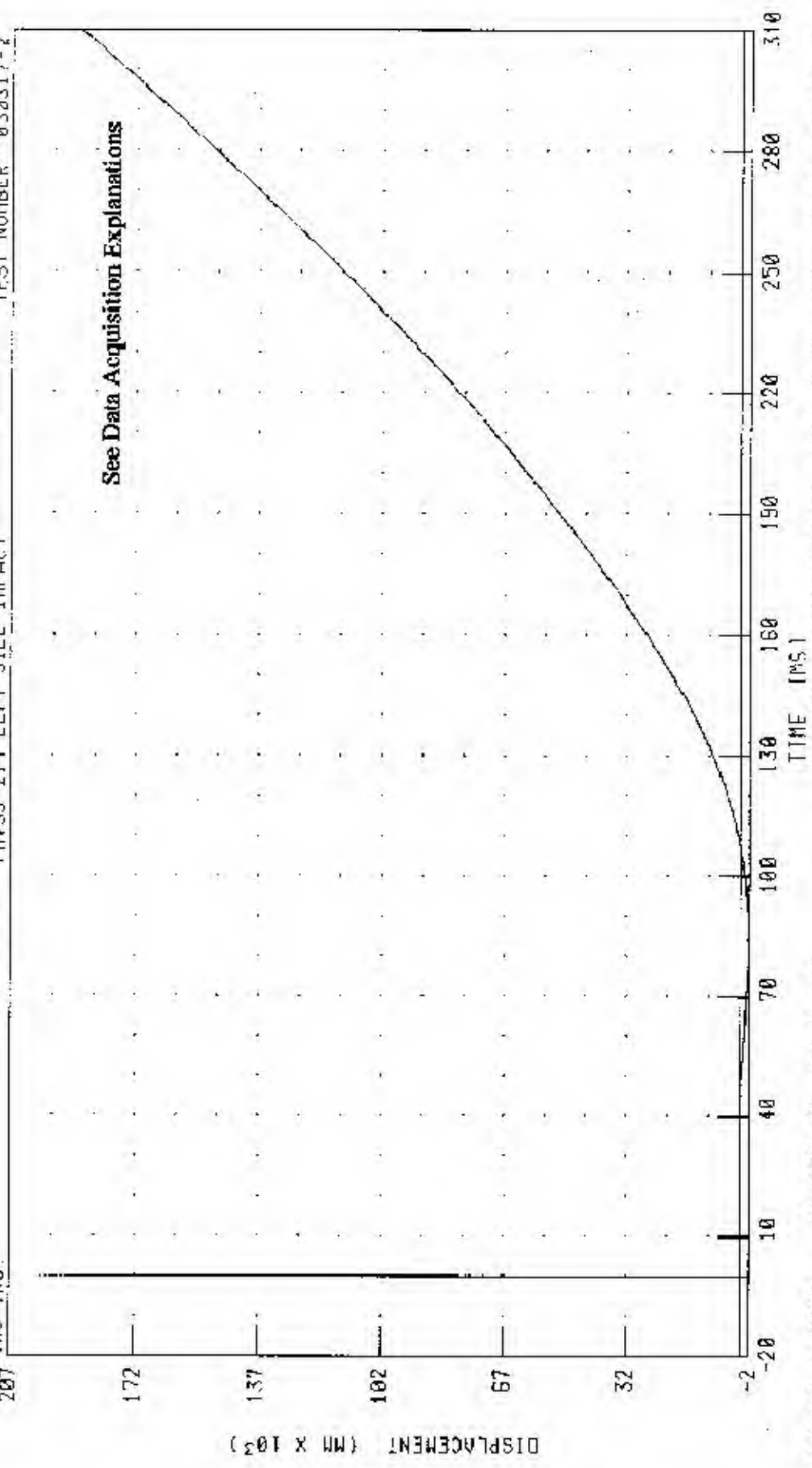
55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 MAZDA 6

LEFT FRONT DOOR ON CENTERLINE Y-AXIS DISPLACEMENT

TRC INC.

FMVSS 214 LEFT SIDE IMPACT

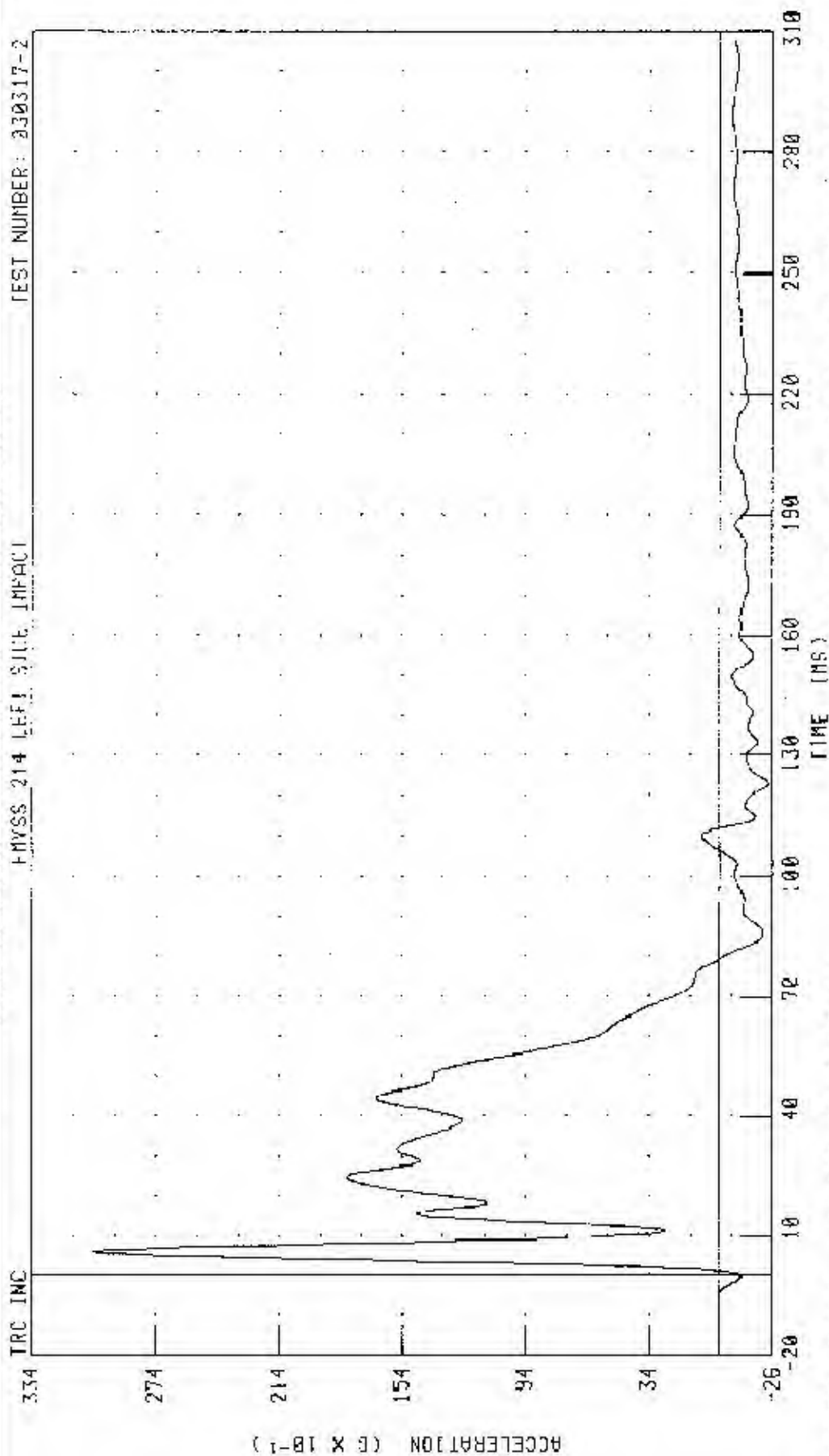
TEST NUMBER 030317-2



CHANNEL: LFCYD1 FILTER: CH. CLASS 180

PEAK DATA: 188612 48 MM @ 310 00 MS; -2502 32 MM @ 84 16 MS

55.28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 MAZDA 6  
 RIGHT REAR OCCUPANT COMPARTMENT Y-AXIS ACCELERATION



CHANNEL: RRT01 FILTER: CH. CLASS 50

PEAK DATA: 30.41 G @ 6.16 MS, -2.40 G @ 122.88 MS



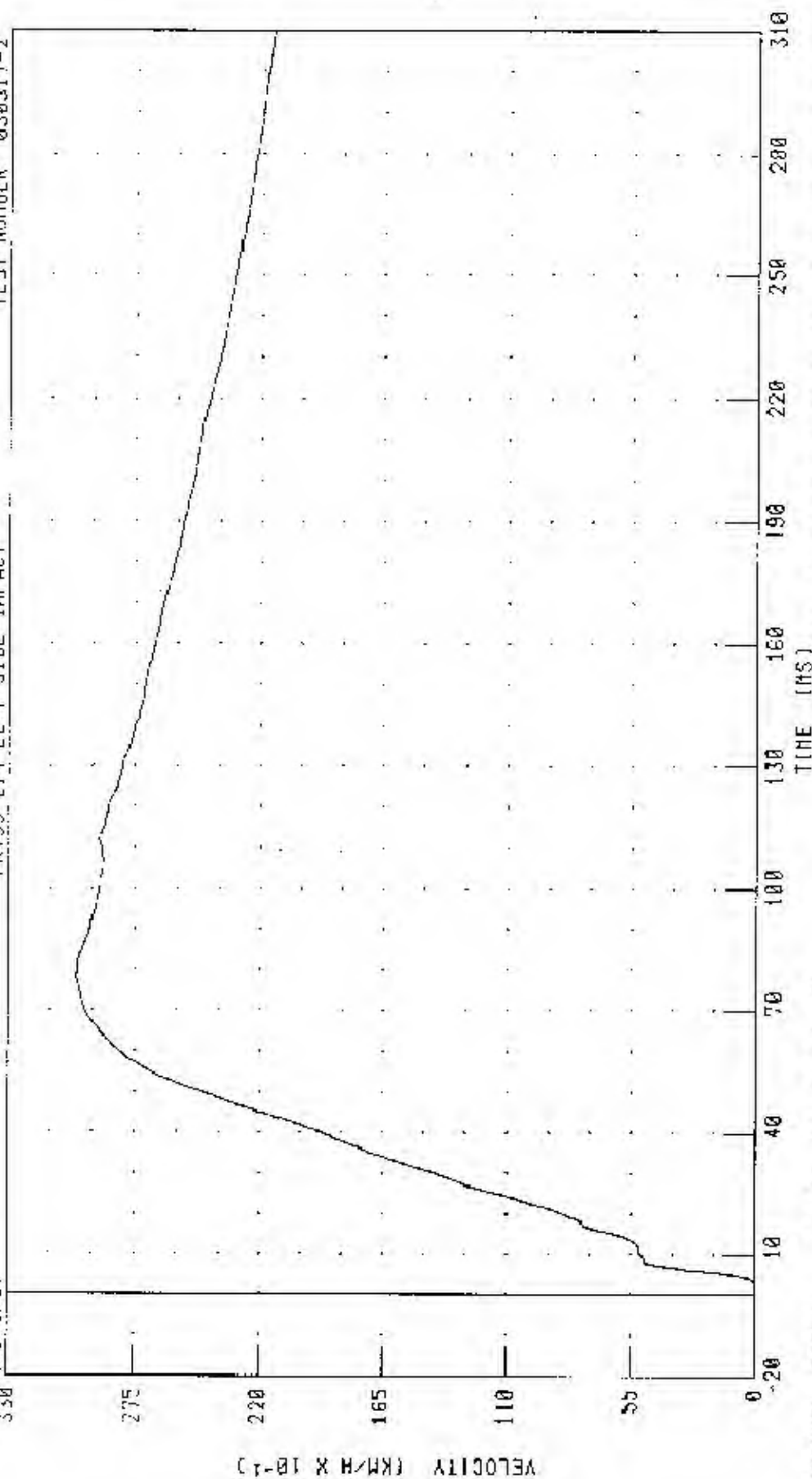
55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 MAZDA 6

RIGHT REAR OCCUPANT COMPARTMENT Y-AXIS VELOCITY

TRC INC.

FMVSS 214 LEFT SIDE IMPACT

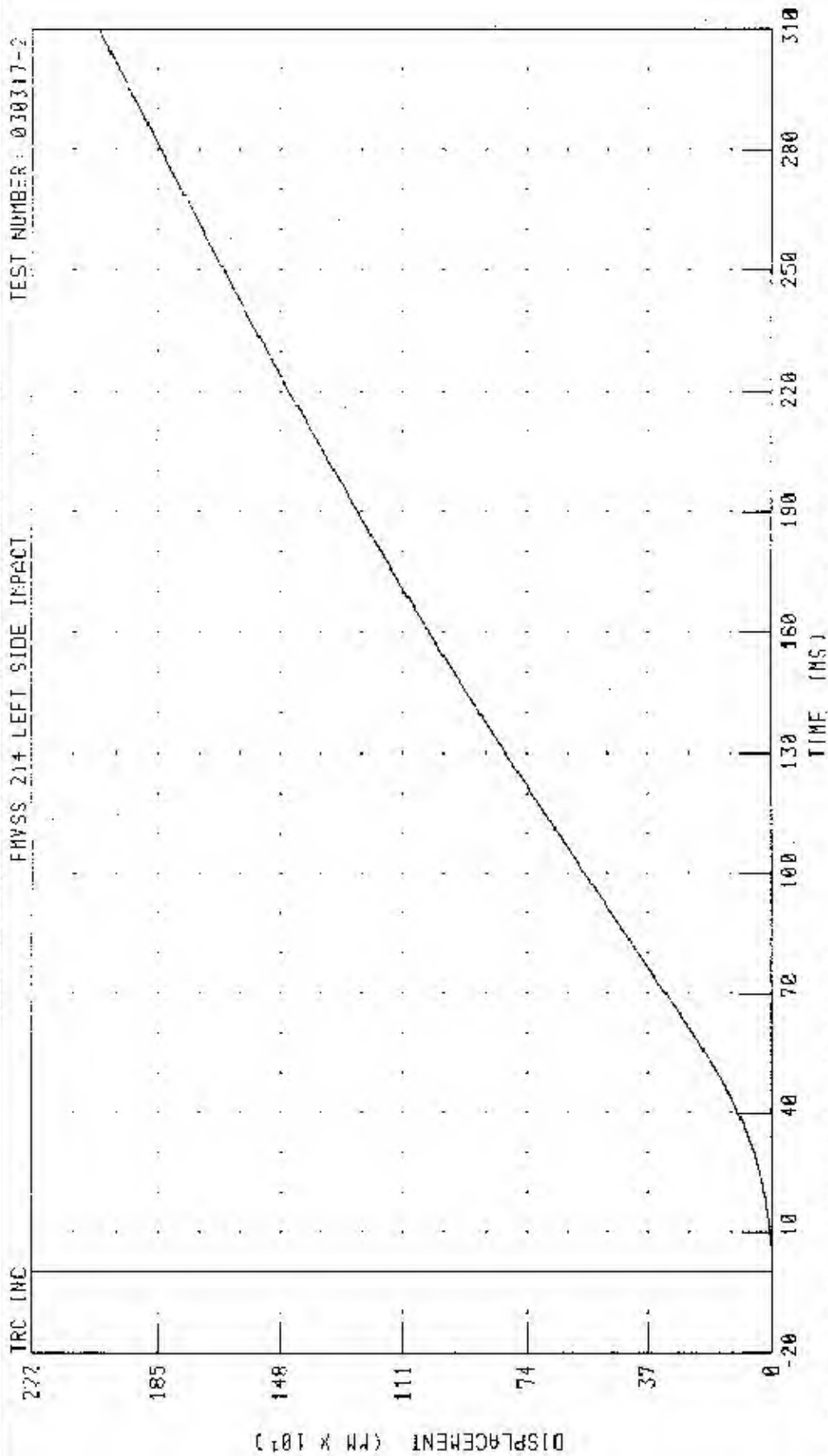
TEST NUMBER 030317-2



CHANNEL: RTTYV1 FILTER: CH CLASS 180

PEAK DATA 30 02 KM/H @ 70 24 MS, -0.01 KM/H @ 2 32 MS

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 MAZDA 6  
 RIGHT REAR OCCUPANT COMPARTMENT Y-AXIS DISPLACEMENT



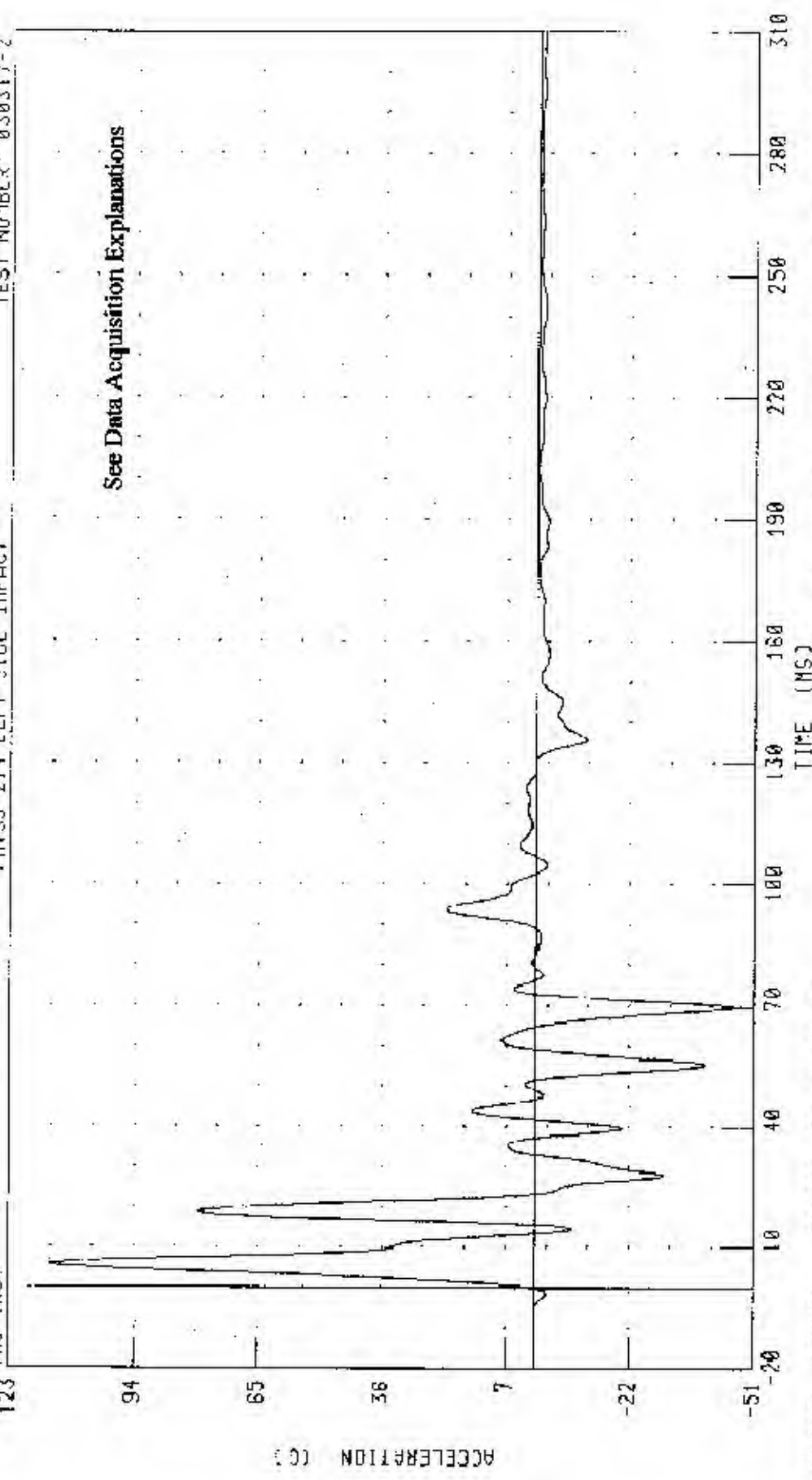
CHANNEL: RRTYD1 FILTER: CH CLASS 130

PEAK DATA: 2072 86 MM @ 310 00 MS; 0.00 MM @ 2 72 MS

55/28 KPH 90 DEGREE SIDE IMPACT MOVING DEFORMABLE BARRIER INTO LEFT SIDE OF 2003 MAZDA 6

LEFT FRONT DOOR MID-REAR Y-AXIS ACCELERATION

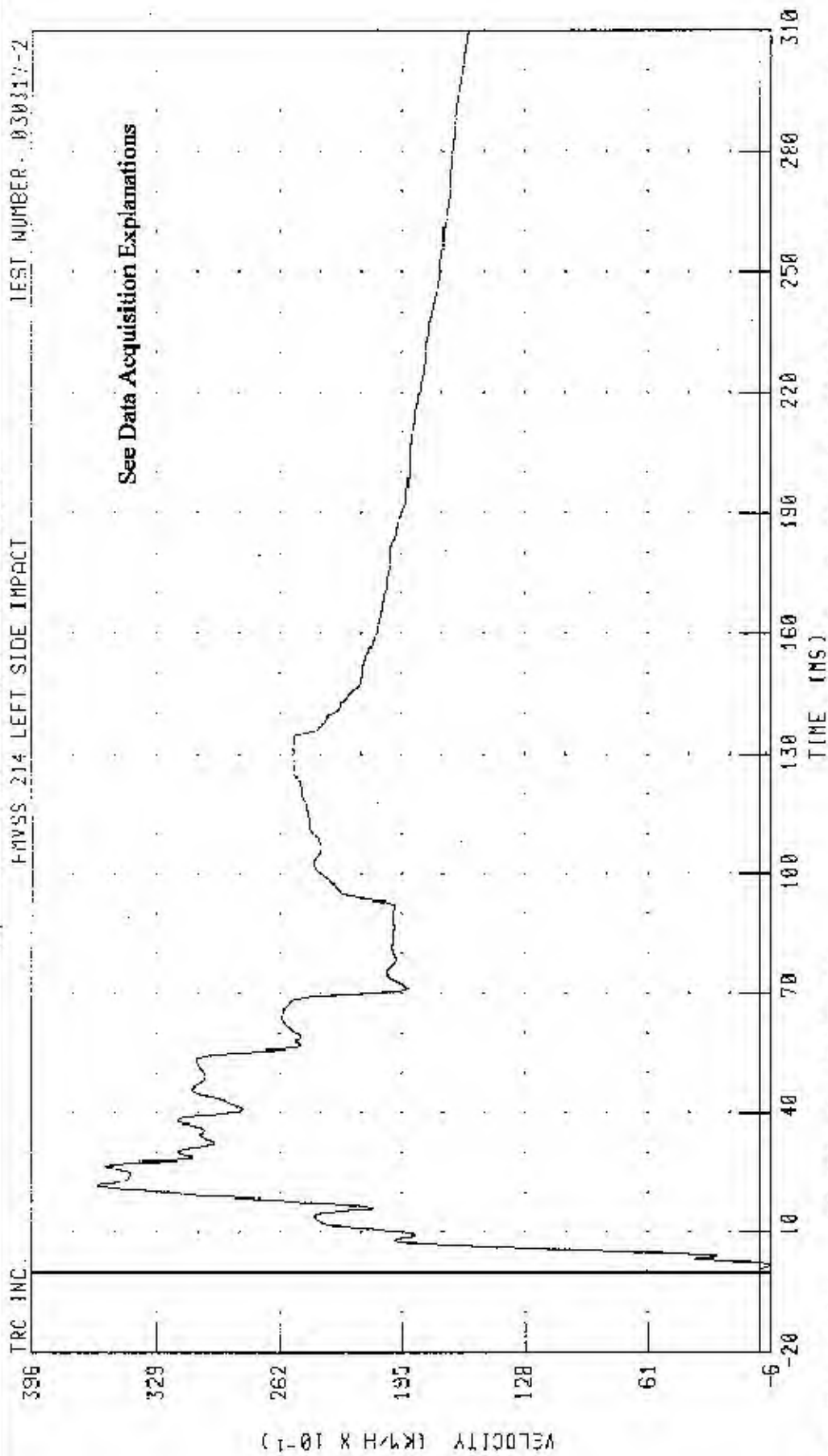
TRC INC. FMVSS 214 LEFT SIDE IMPACT TEST NUMBER 030317-2



CHANNEL: LFMYC1 FILTER: CH. CLASS 60 PEAK DATA: 113.50 G @ 5.76 MS; -46.56 G @ 69.76 MS



53/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 MAZDA 6  
 LEFT FRONT OCCUR MID-REAR Y-AXIS VELOCITY



CHANNEL: LFTYV1 FILTER: CH CLASS: 190 PEAK DATA: 36.06 KPH @ 22.00 MS; -0.52 KPH @ 1.75 MS

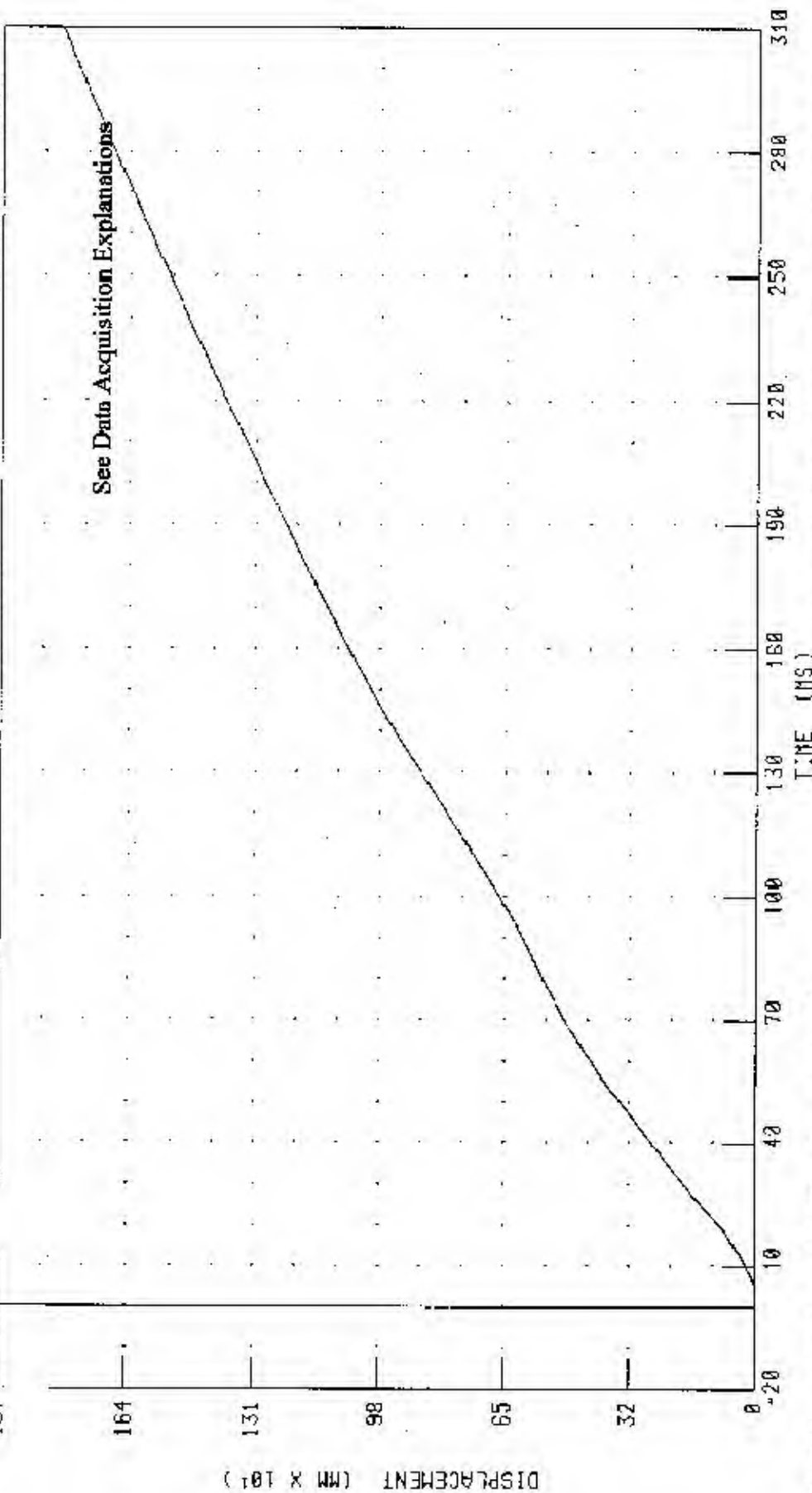
55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 MAZDA 6

LEFT FRONT DOOR MID-REAR Y-AXIS DISPLACEMENT

TRC INC.

FMVSS 214 LEFT SIDE IMPACT

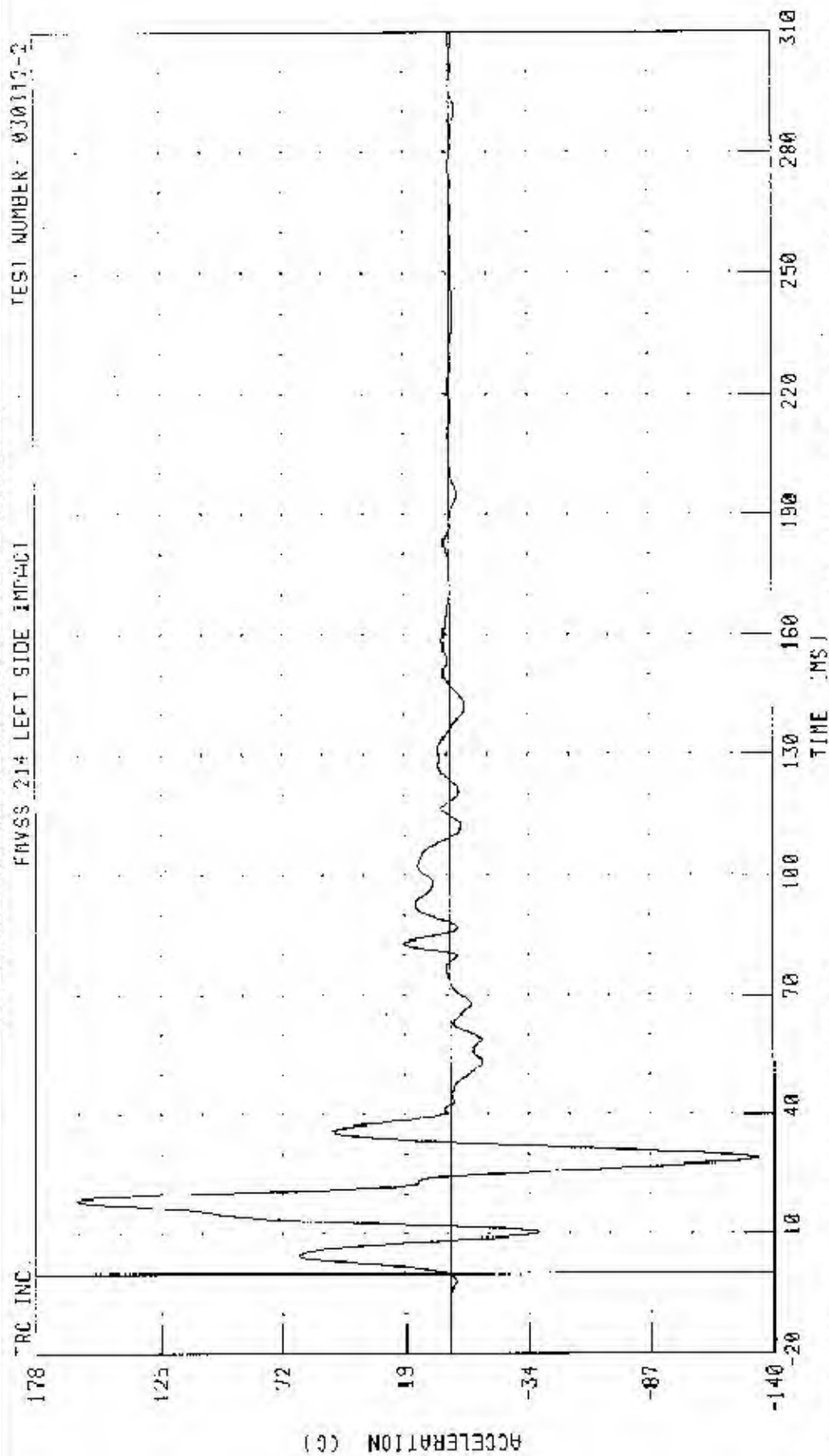
TEST NUMBER: 030317-2



CHANNEL LFN001 FILTER: CH. CLASS 100

PEAK DATA 1020 92 MM @ 310 00 MS; -0.17 MM @ 2 24 MS

55.28 KPH 30 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 MAZDA 6  
LEFT FRONT LOCK UPPER CENTERLINE Y-AXIS ACCELERATION



CHANNEL: LFUYG1 FILTER: CH CLASS 60

PEAK DATA 161.23 G @ 18.64 MS, -132.76 G @ 29.04 MS



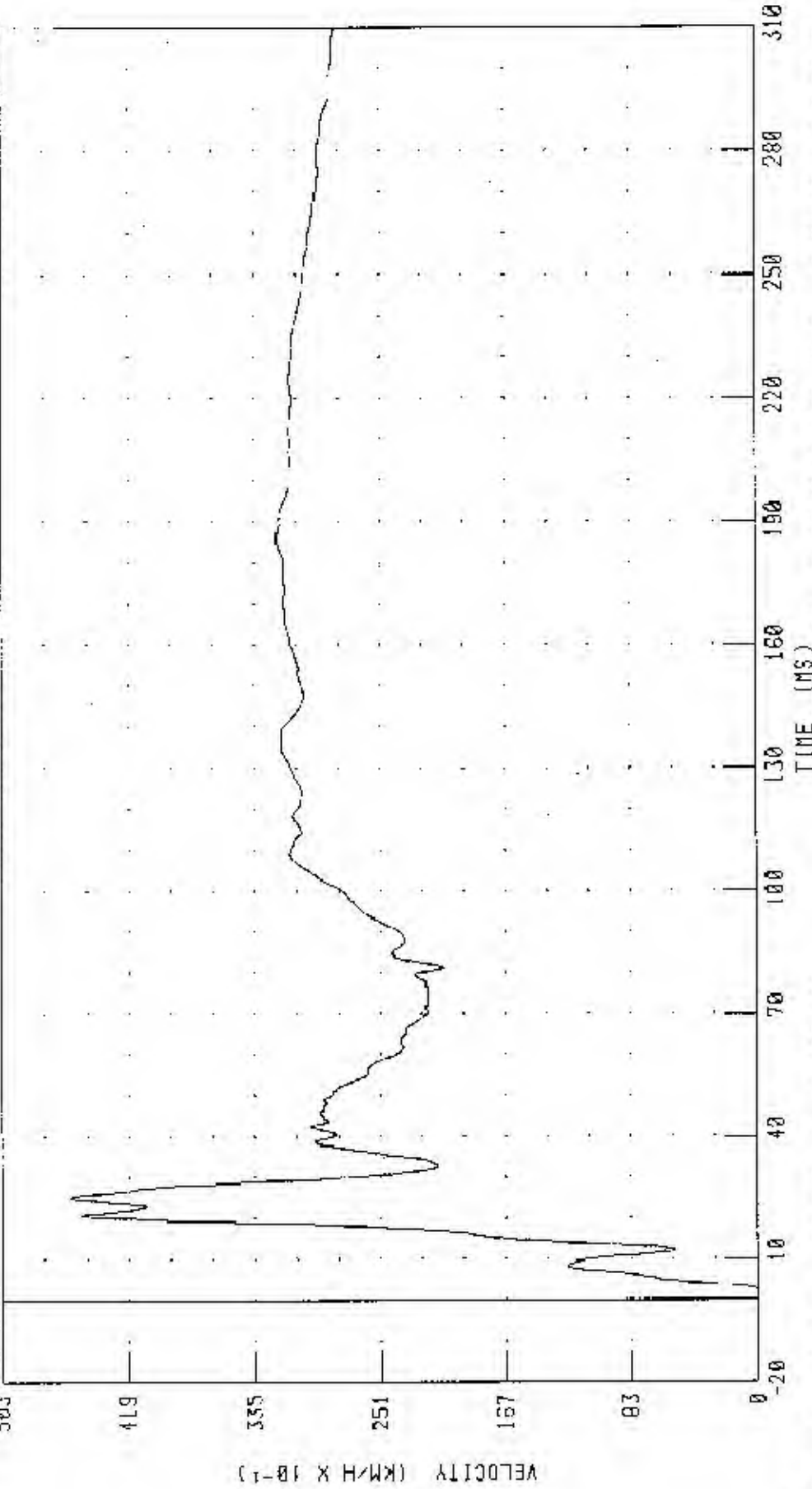
55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 MAZDA 6

LEFT FRONT DOOR UPPER CENTERLINE Y-AXIS VELOCITY

TRC INC

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030317-2

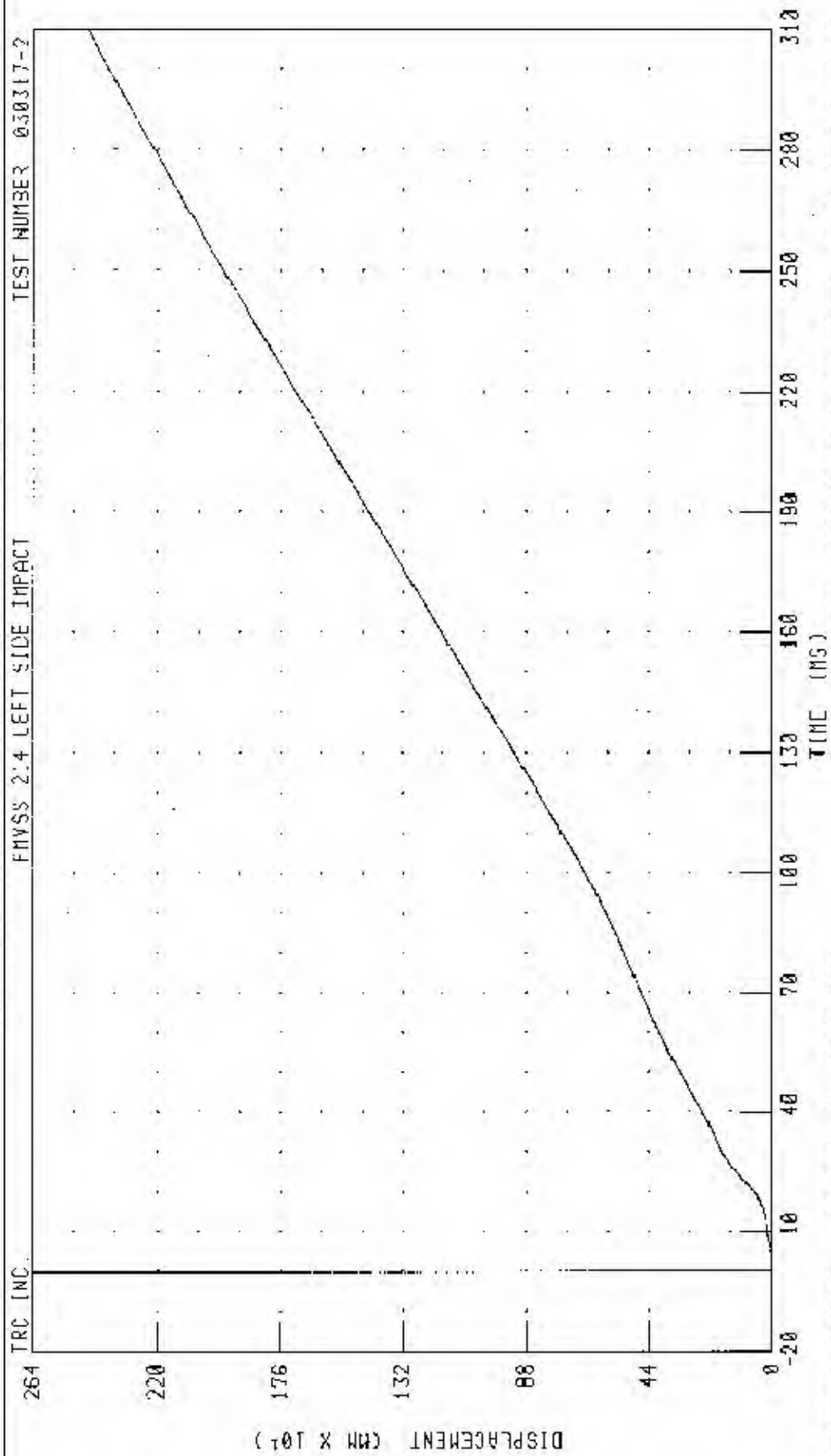


CHANNEL LF01V1

FILTER: CH. CLASS 100

PEAK DATA: 45 88 KM/H @ 25 36 MS; -0 07 KM/H @ 2 00 MS

55.20 MPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 MAZDA 6  
 LEFT FRONT DOOR UPPER CENTERLINE Y-AXIS DISPLACEMENT



CHANNEL: EFUYD1 FILTER: CH. CLASS 180 PEAK DATA 2449.51 MH @ 310.00 MS; -0.01 MM @ 2.40 MS

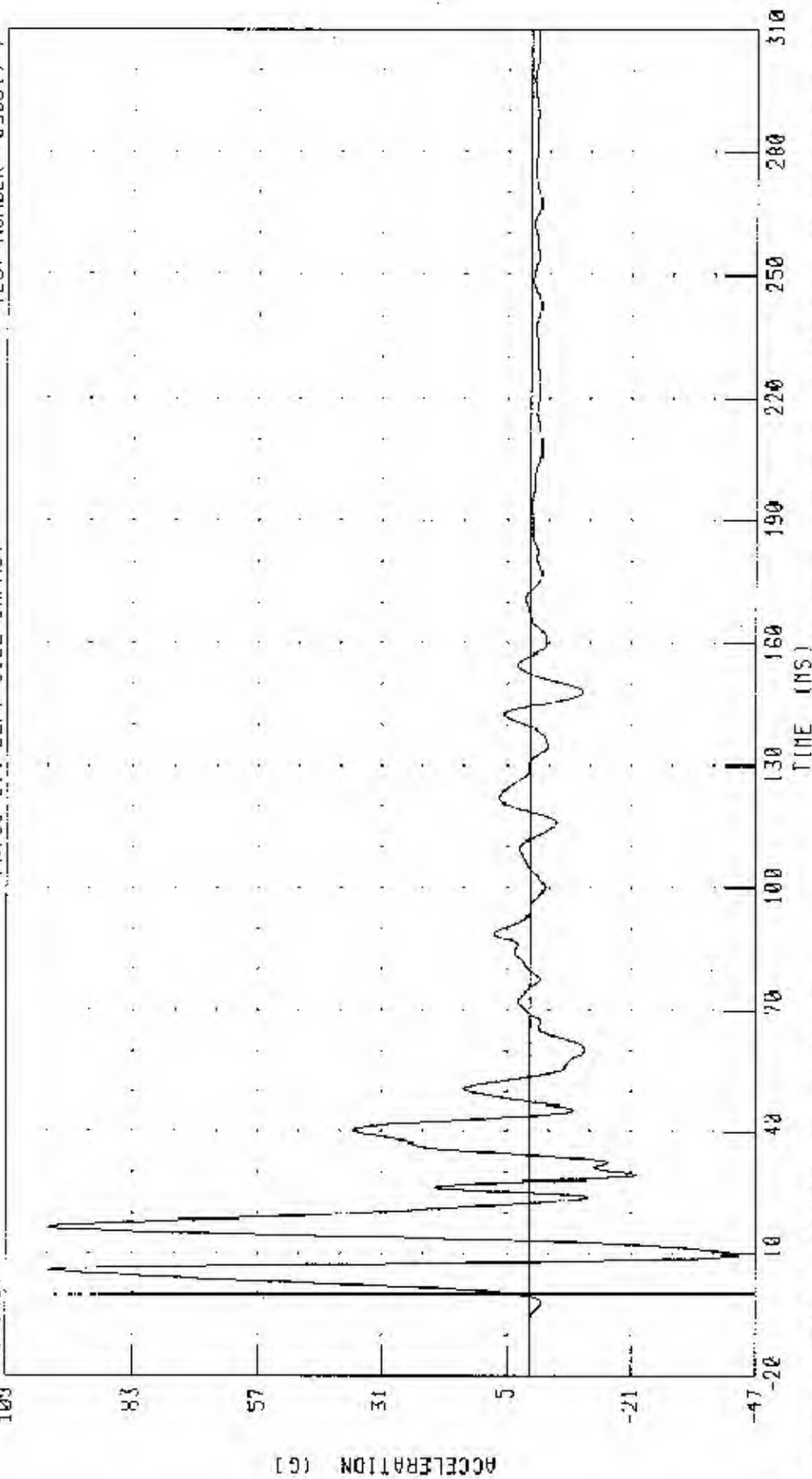
55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) IN D LEFT SIDE OF 2003 MAZDA 6

LEFT REAR DOOR MID-REAR Y-AXIS ACCELERATION

TRC INC.

FWSS 214 LEFT SIDE IMPACT

TEST NUMBER 030317-2

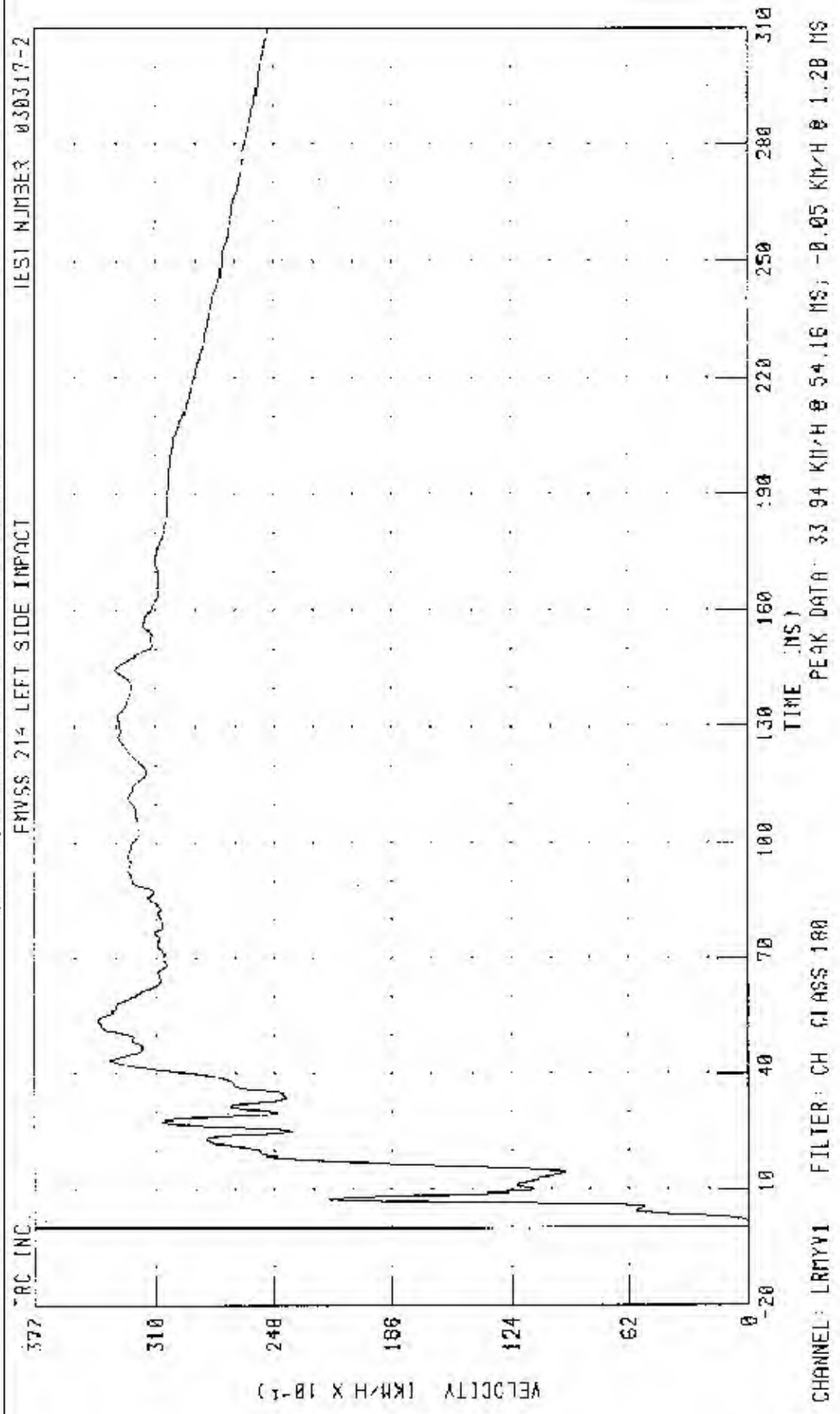


CHANNEL LRMV01 FILTER: CH, CLASS 60

PEAK DATA: 200.04 G @ 16.80 MS; -43.48 G @ 9.84 MS

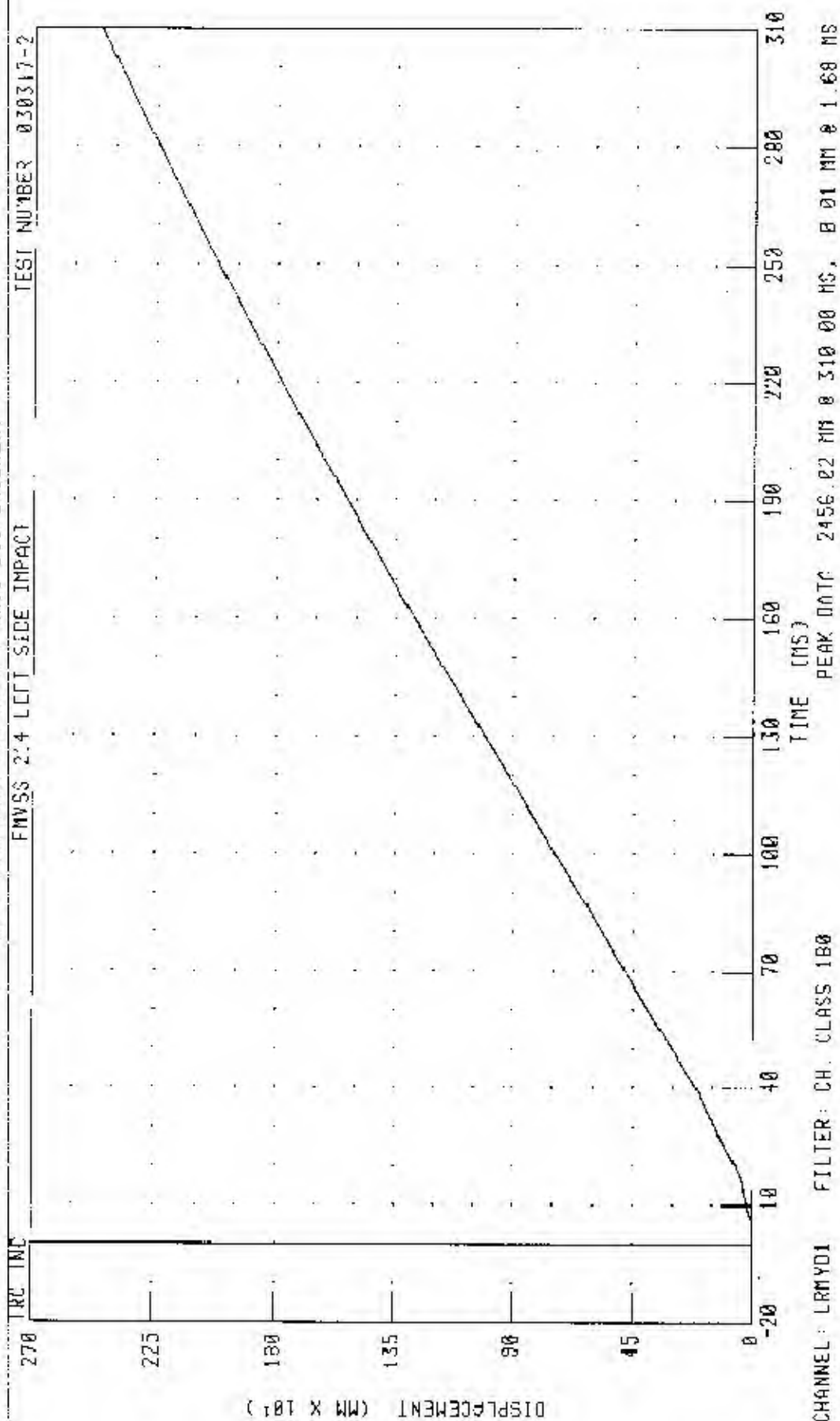


55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 MAZDA 6  
 LEFT REAR DOOR MID REAR Y AXIS VELOCITY

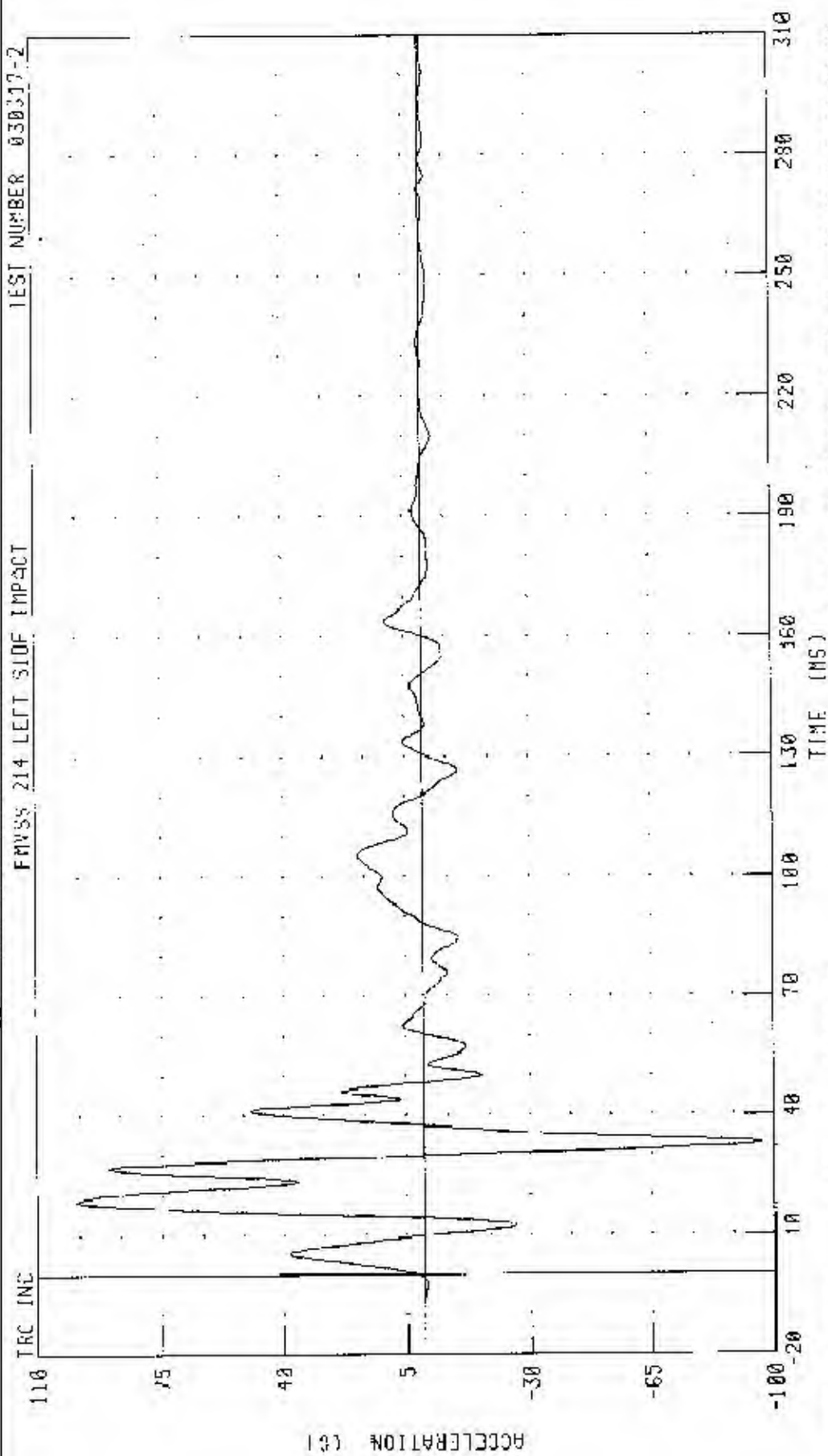


55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 MAZDA 6

LEFT REAR DOOR MID-REAR Y-AXIS DISPLACEMENT



55/20 KPII 50 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 MAZDA 6  
 LEFT REAR DOOR UPPER CENTERLINE Y-AXIS ACCELERATION



PERK DATA: 98.79 @ 18.72 MS; -96.48 @ 33.24 MS

CHANNEL: LRUVC1 FILTER: CH. CLASS 60

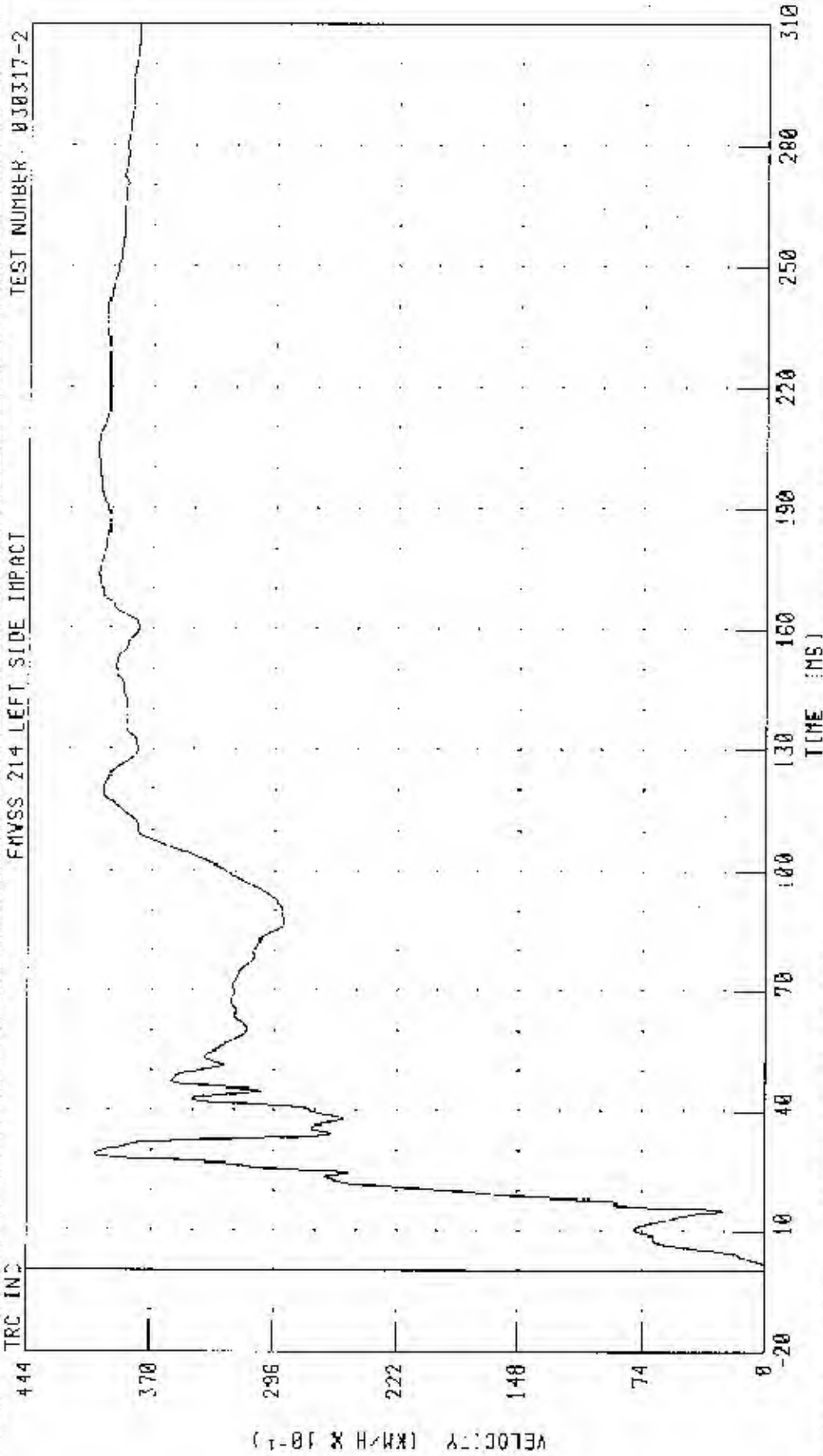


55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 MAZDA 6

LEFT REAR CORNER UPPER CENTERLINE Y-AXIS VELOCITY

TEST NUMBER: 030317-2

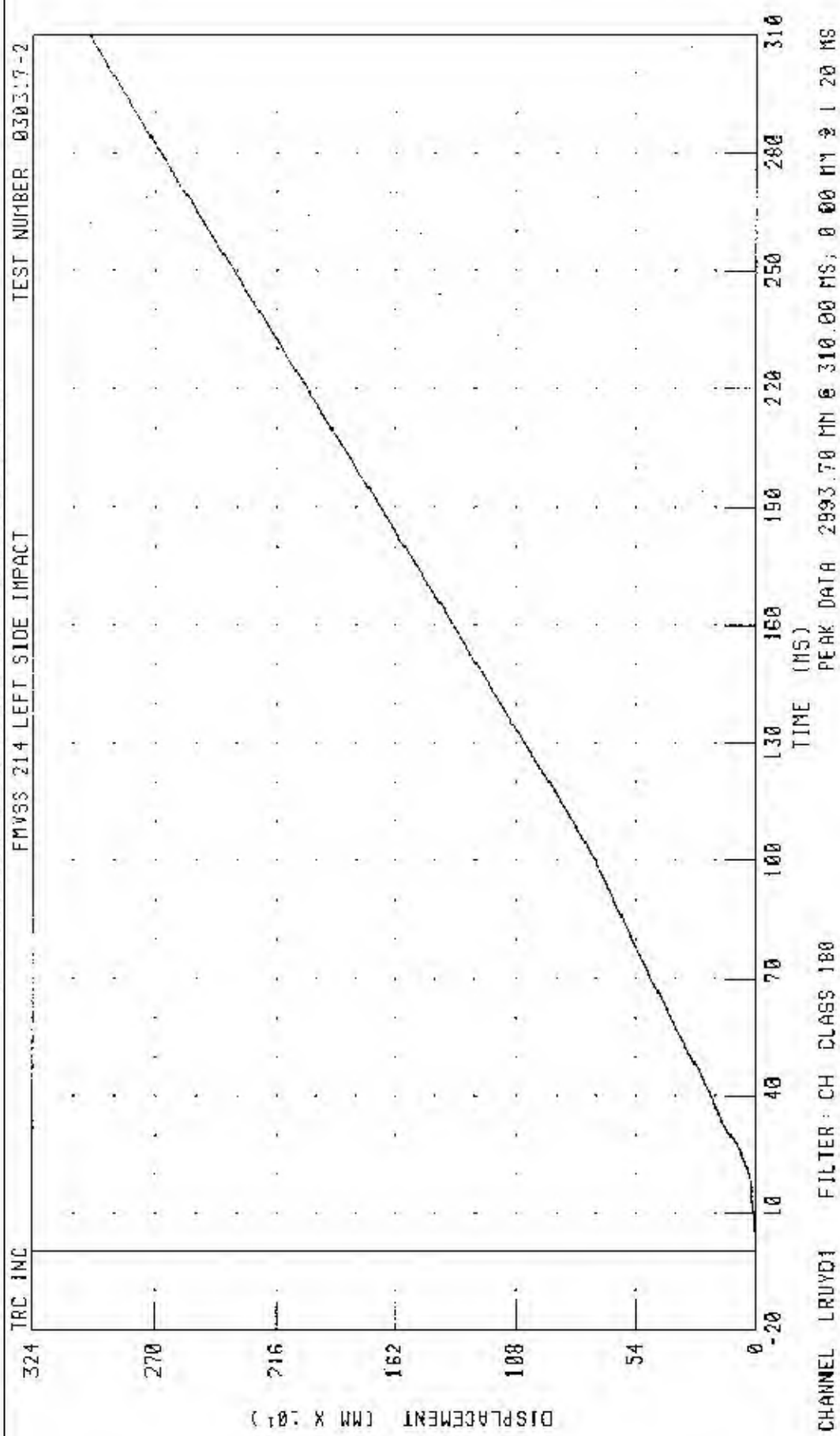
FMVSS 214 LEFT SIDE IMPACT



CHANNEL: LRUYY1 FILTER: CH. CLASS 100

PEAK DATA: 40.37 KM/H @ 29.04 MS, -0.02 KM/H @ 0.80 MS

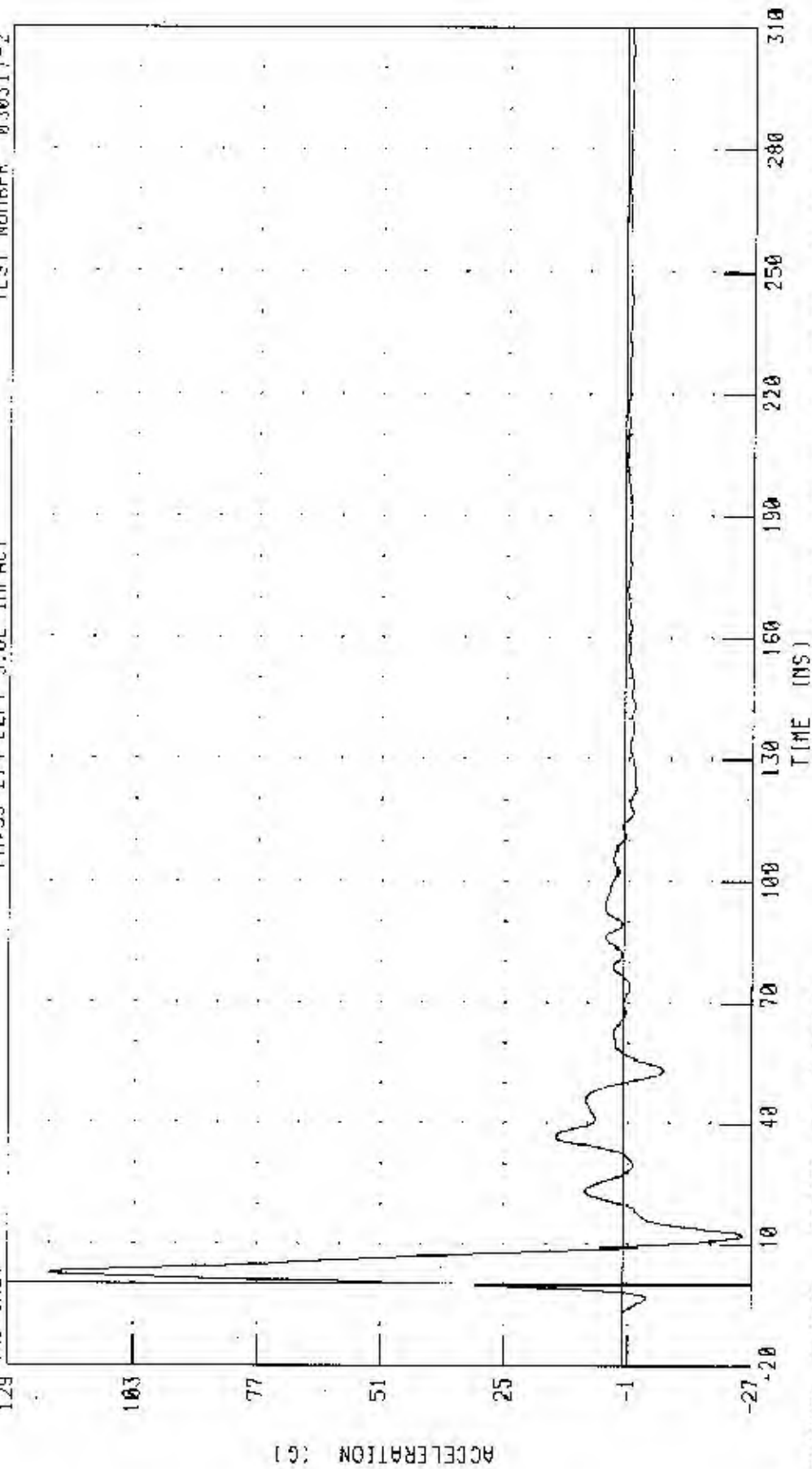
55/28 KPH 90 DEGREE SIDE IMPACT (MOVING AFFORDABLE BARRIER) INTO LEFT SIDE OF 2003 PAZDA B  
 LEFT REAR DOOR UPPER CENTERLINE Y-AXIS DISPLACEMENT



55/28 KP4 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 MAZDA 6

LEFT LOWER A-POST Y-AXIS ACCELERATION

TRC INC. FMVSS 214 LEFT SIDE IMPACT TEST NUMBER 030317-2

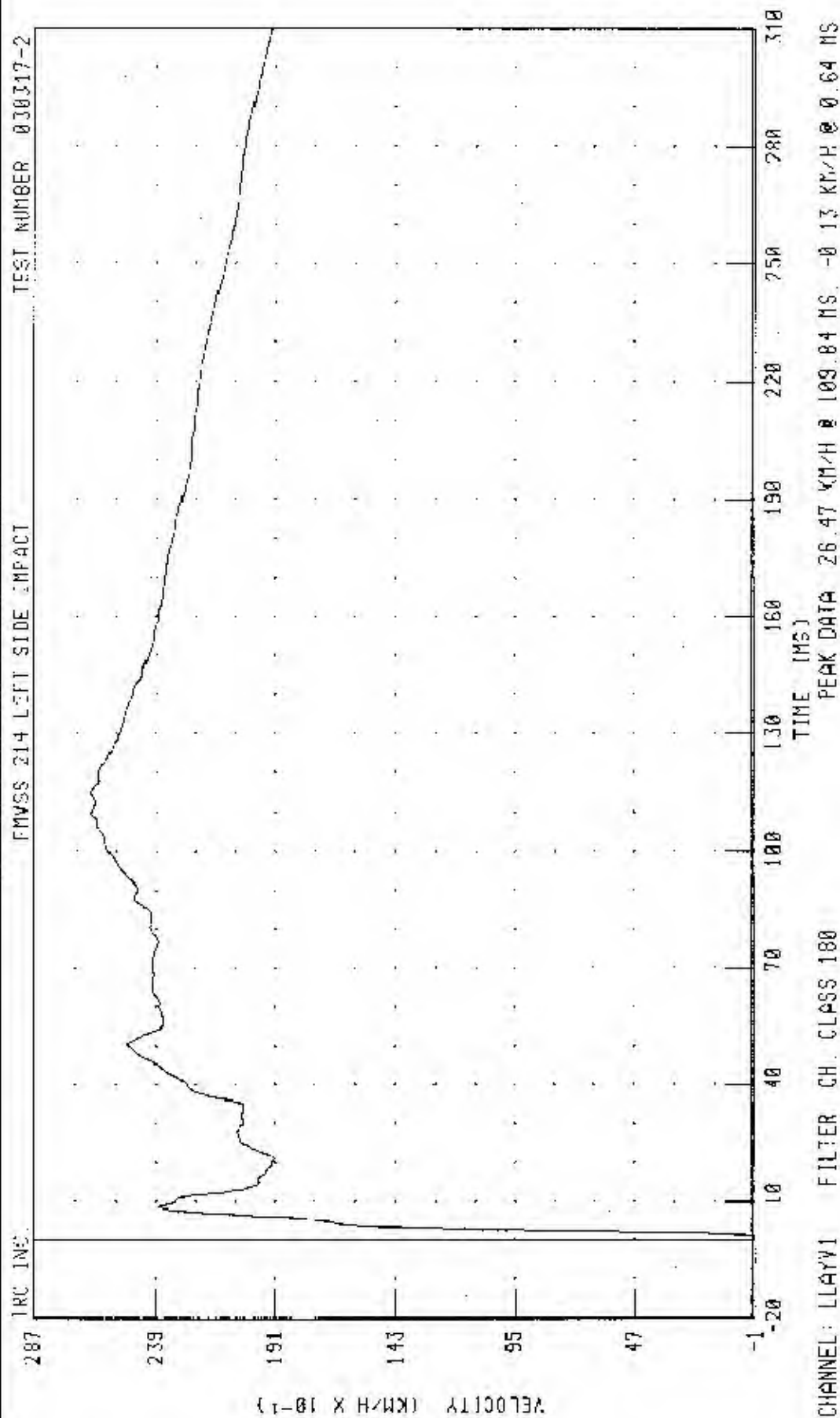


CHANNEL L1AYC1 FILTER: CH. CLASS 60

PEAK DATA: 120.41 G @ 2.80 MS, -24.88 G @ 12.24 MS



55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 MAZDA 6  
LEFT LOWER A-POST Y-AXIS VELOCITY



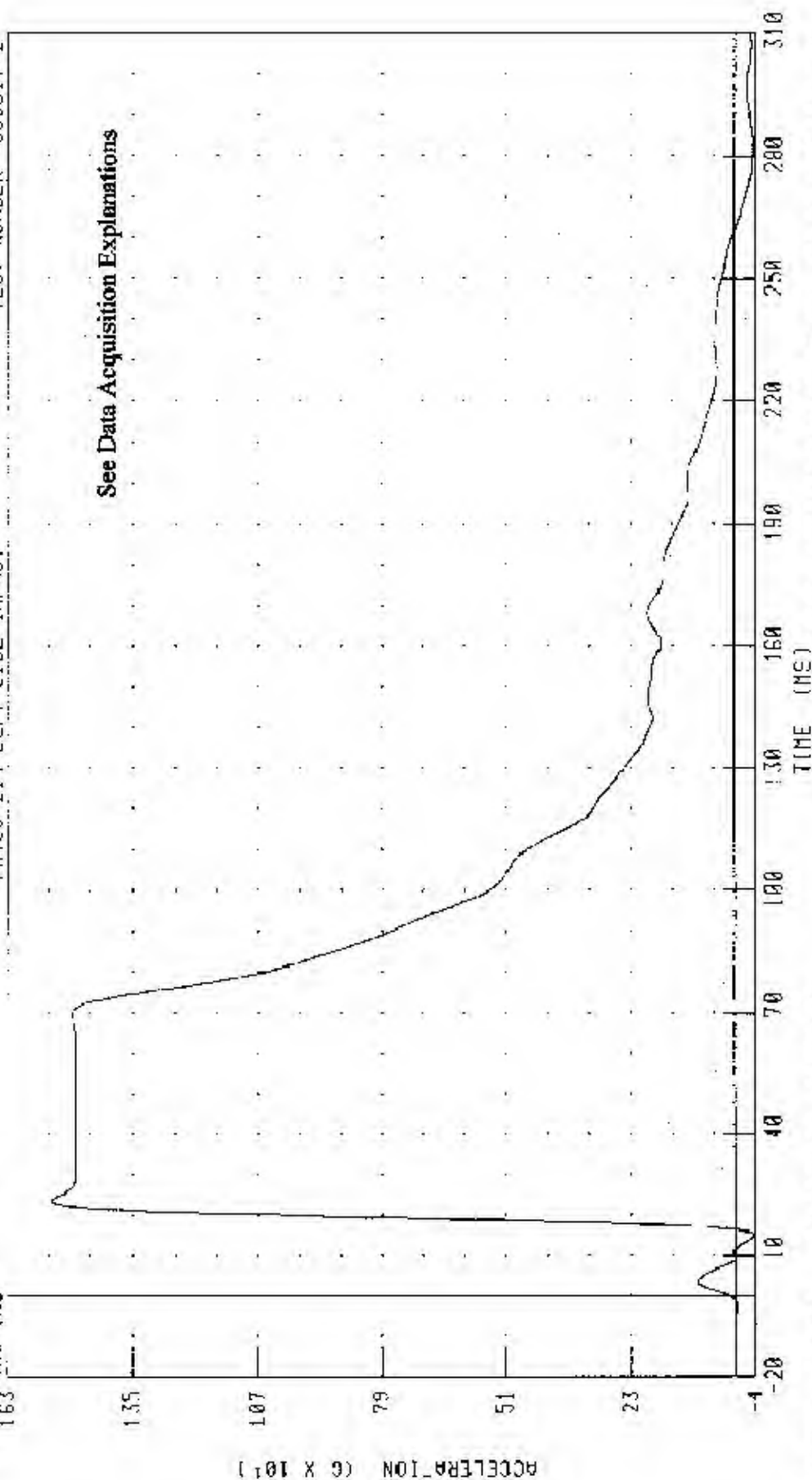
55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 MAZDA 6

LEFT MIDDLE A-POST Y-AXIS ACCELERATION

TRC INC

FNVS 214 LEFT SIDE IMPACT

TEST NUMBER 030317-2



CHANNEL: LMAYC1 FILTER: CH. CLASS 60

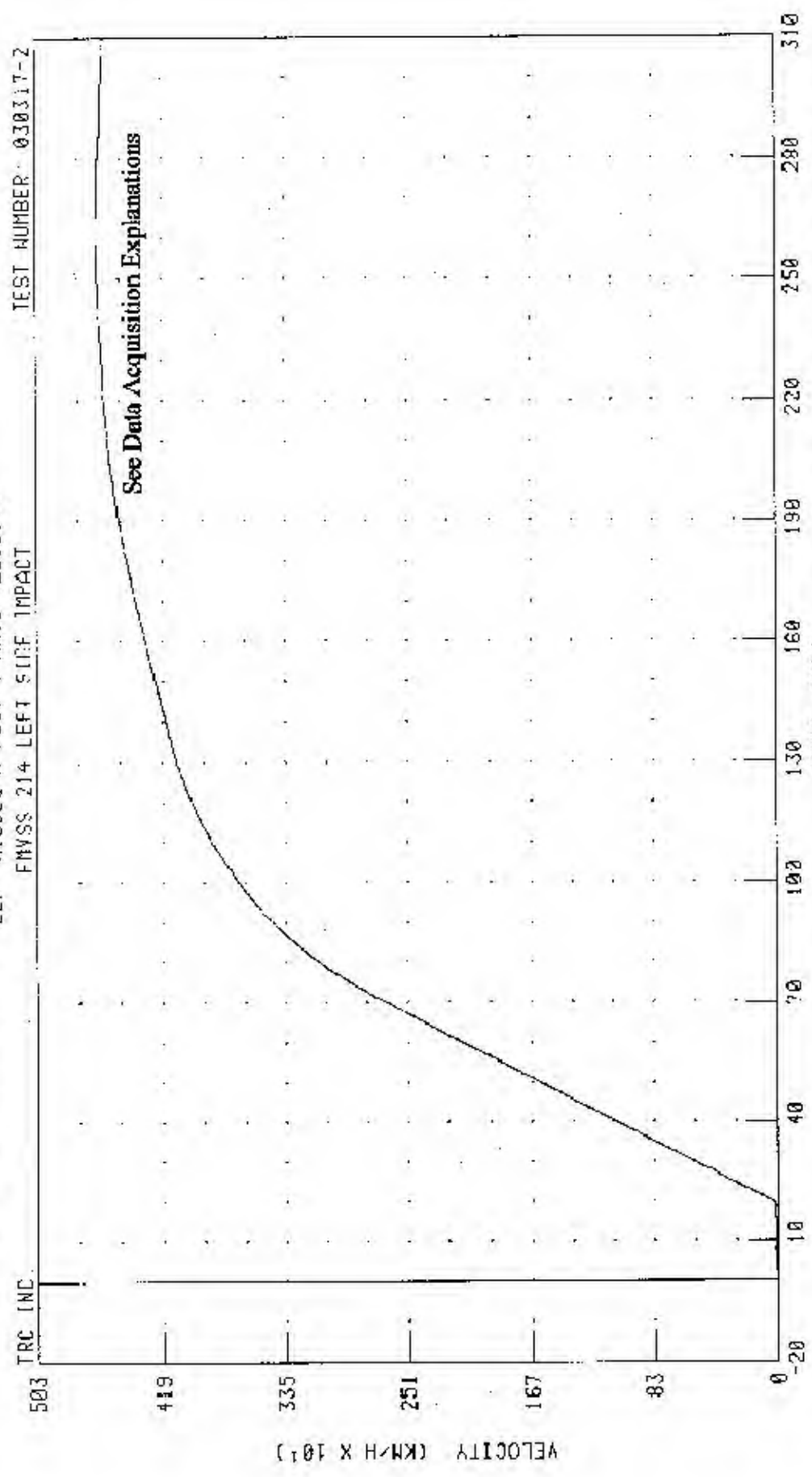
PEAK DATA: 1533.44 G @ 23.76 MS, -42.64 G @ 15.12 MS

55/20 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 MAZDA B

LEFT MIDDLE A-POST Y-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030317-2



CHANNEL: LNAV1 FILTER: CH. CLASS 180

PEAK DATA: 4633 03 KM/H @ 262.48 MS, -0.13 KM/H @ 1.04 MS



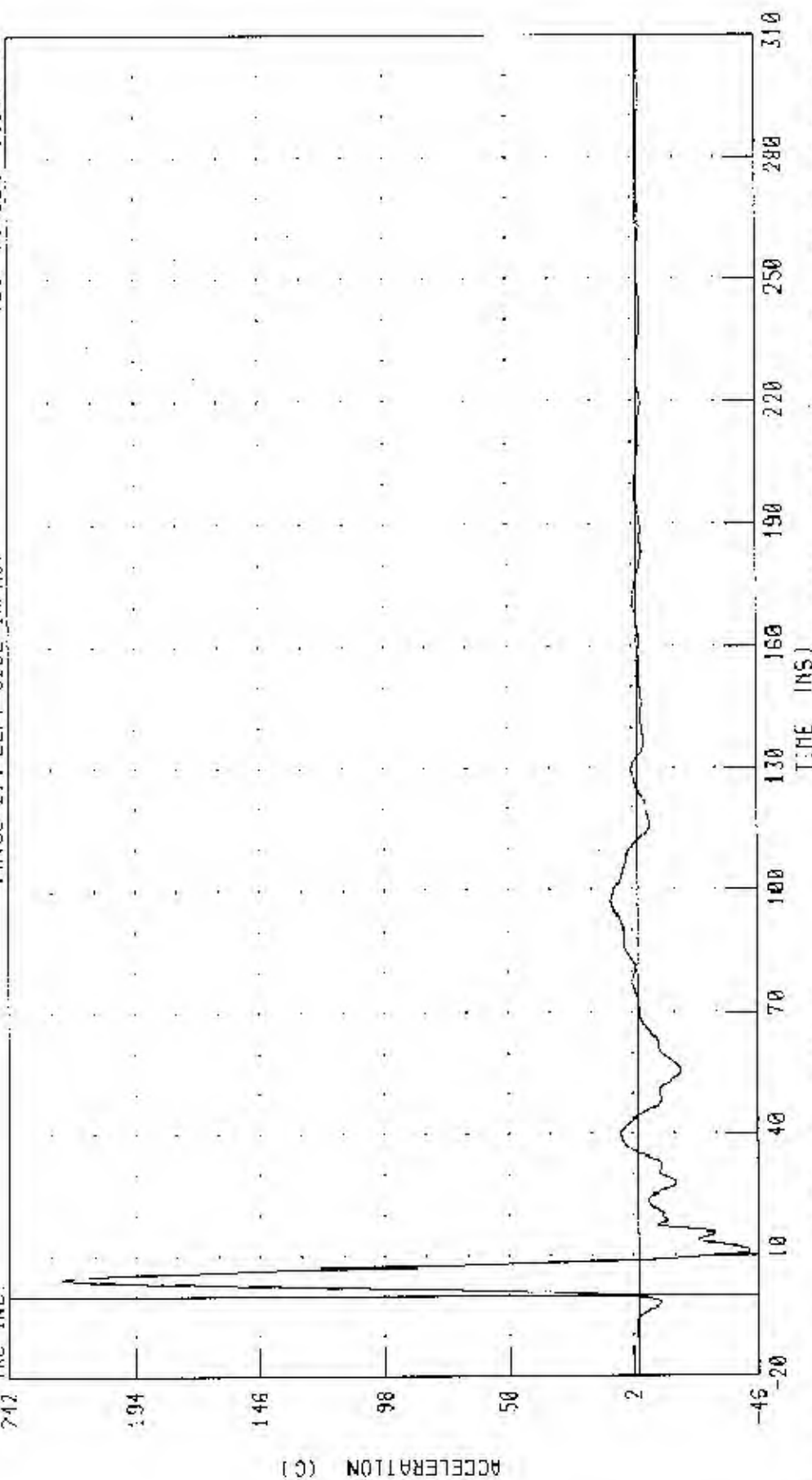
55/28 KPH 90 DEGREE SIDE IMPACT (MOVING OFFICERABLE BARRIER) INTO LEFT SIDE OF 2003 MAZDA 6

LEFT LOWER B-POST Y-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030317-2

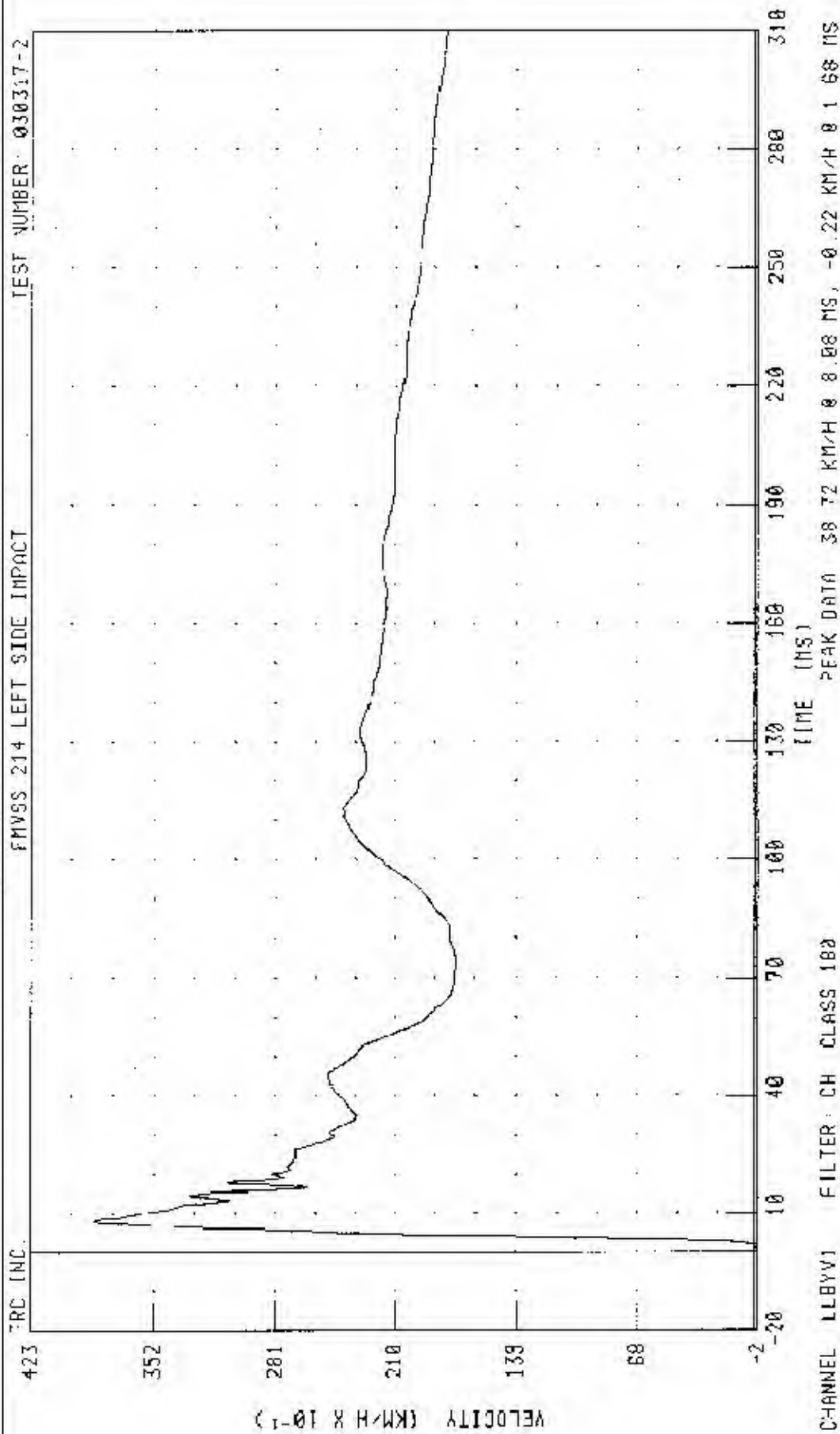
TRC INC.



CHANNEL: LLBYG1 FILTER: CH. CLASS 60

PEAK DATA 222.55 G @ 4.56 MS, 42.57 G @ 11.12 MS

55/20 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 MAZDA 6  
LEFT LOWER B-POST Y-AXIS VELOCITY



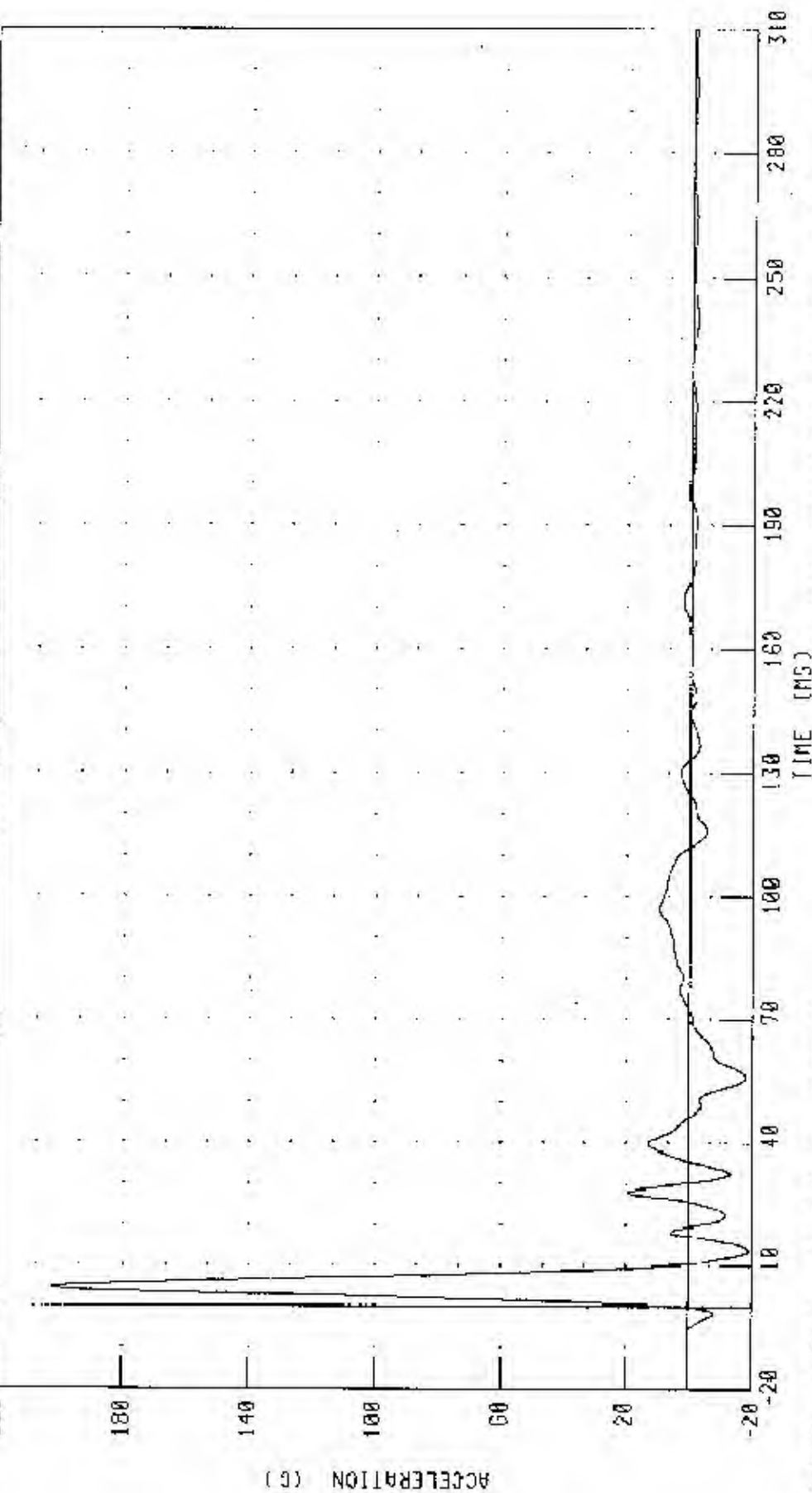
55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 MAZDA 6

LEFT MODULE B POST Y-AXIS ACCELERATION

TRC (G)

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030317-2



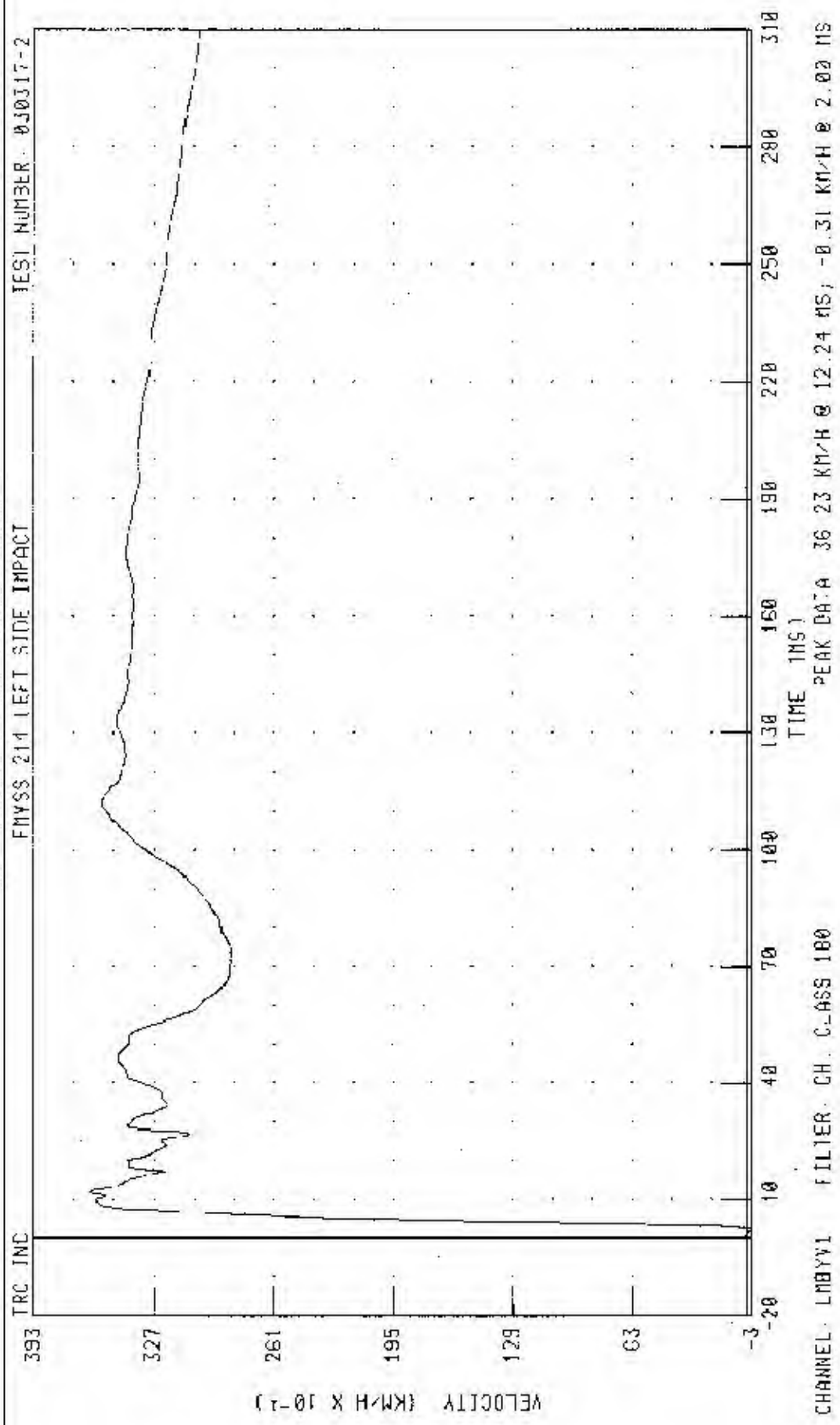
CHANNEL: LMBYC1 FILTER: CH CLASS C0

TIME (MS)

PEAK DATA 202.48 G @ 4.56 MS; -18.74 G @ 13.60 MS



55'28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFURMABLE BARRIER) INTO LEFT SIDE OF 2003 MAZDA 3  
 LEFT MIDDLE B-FUSI Y-AXIS VELOCITY

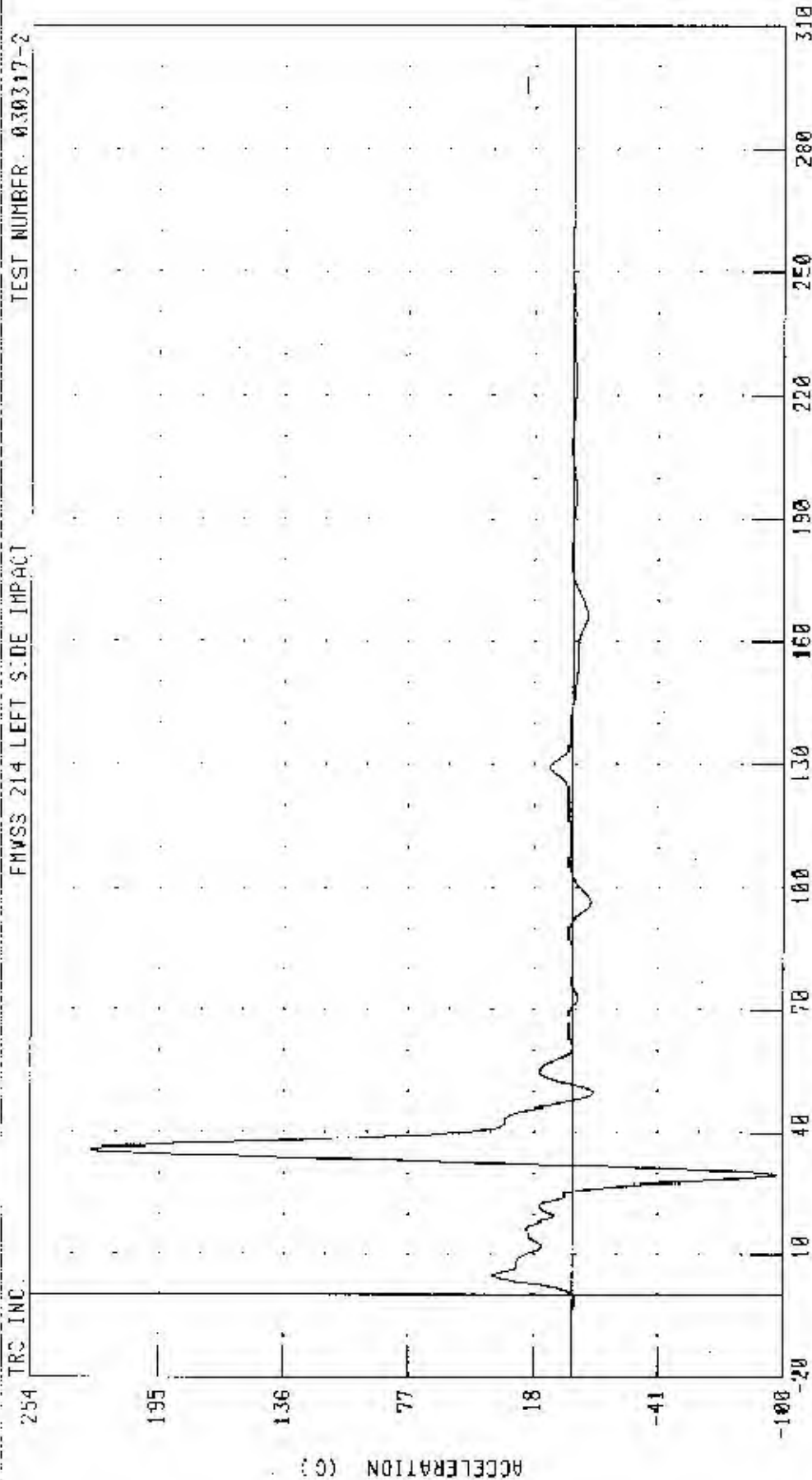


55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 MAZDA 6

LEFT FRONT SEAT TRACK Y-AXIS ACCELERATION

TEST NUMBER: 030317-2

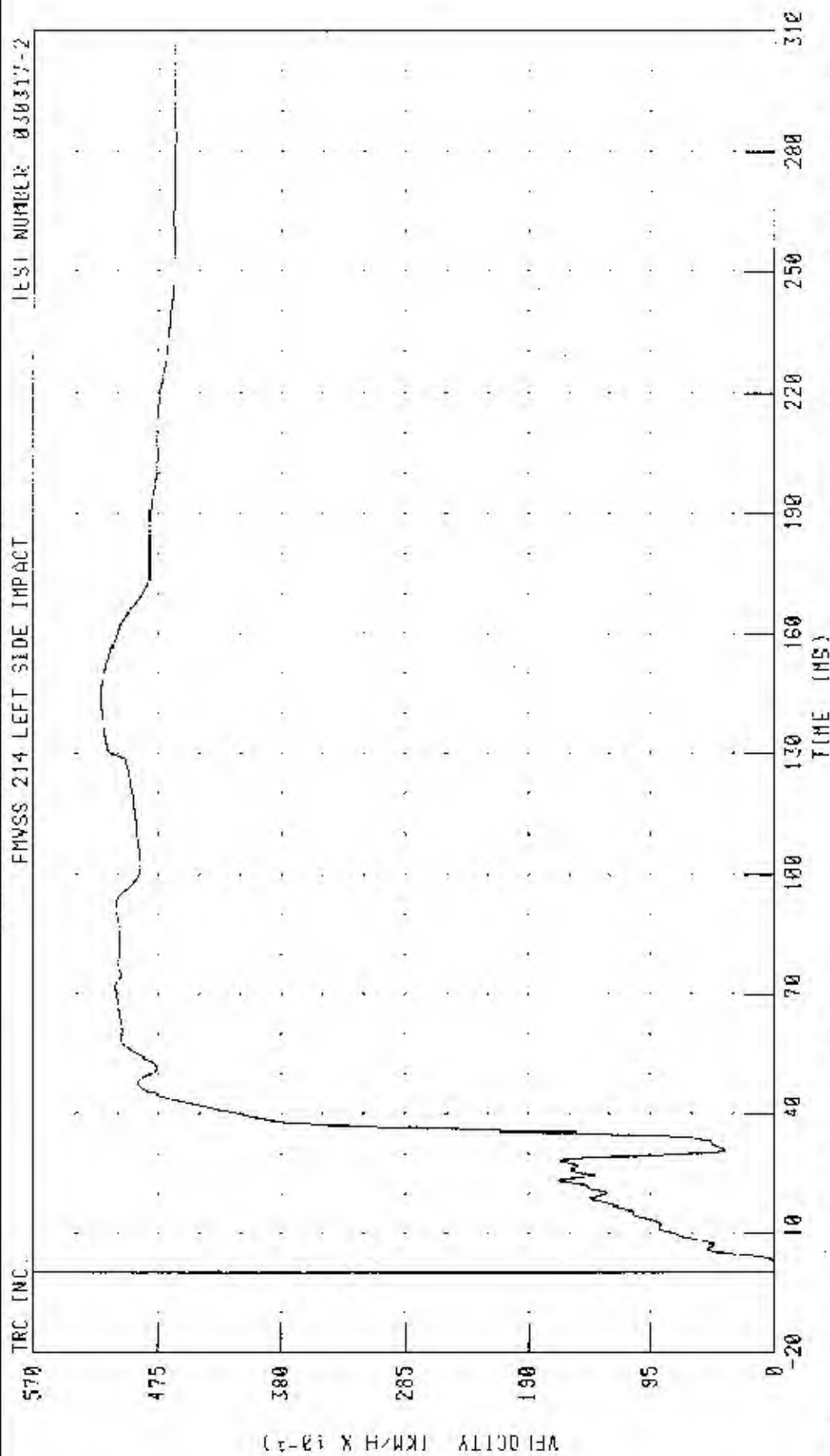
FMVSS 214 LEFT SIDE IMPACT



CHANNEL: LFTYC1 FILTER: CH. CLASS 60

PEAK DATA: 226.08 G @ 36.08 MS; -96.51 G @ 29.58 MS

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 MINZDA 6  
LEFT FRONT SEAT TRACK Y-AXIS VELOCITY



TEST NUMBER 030317-2

FMVSS 214 LEFT SIDE IMPACT

CHANNEL: LF1YV1 FILTER: GM CLASS 180 PEAK DATA: 51.89 KM/H @ 144.00 MS; -0.03 KM/H @ 2.48 MS



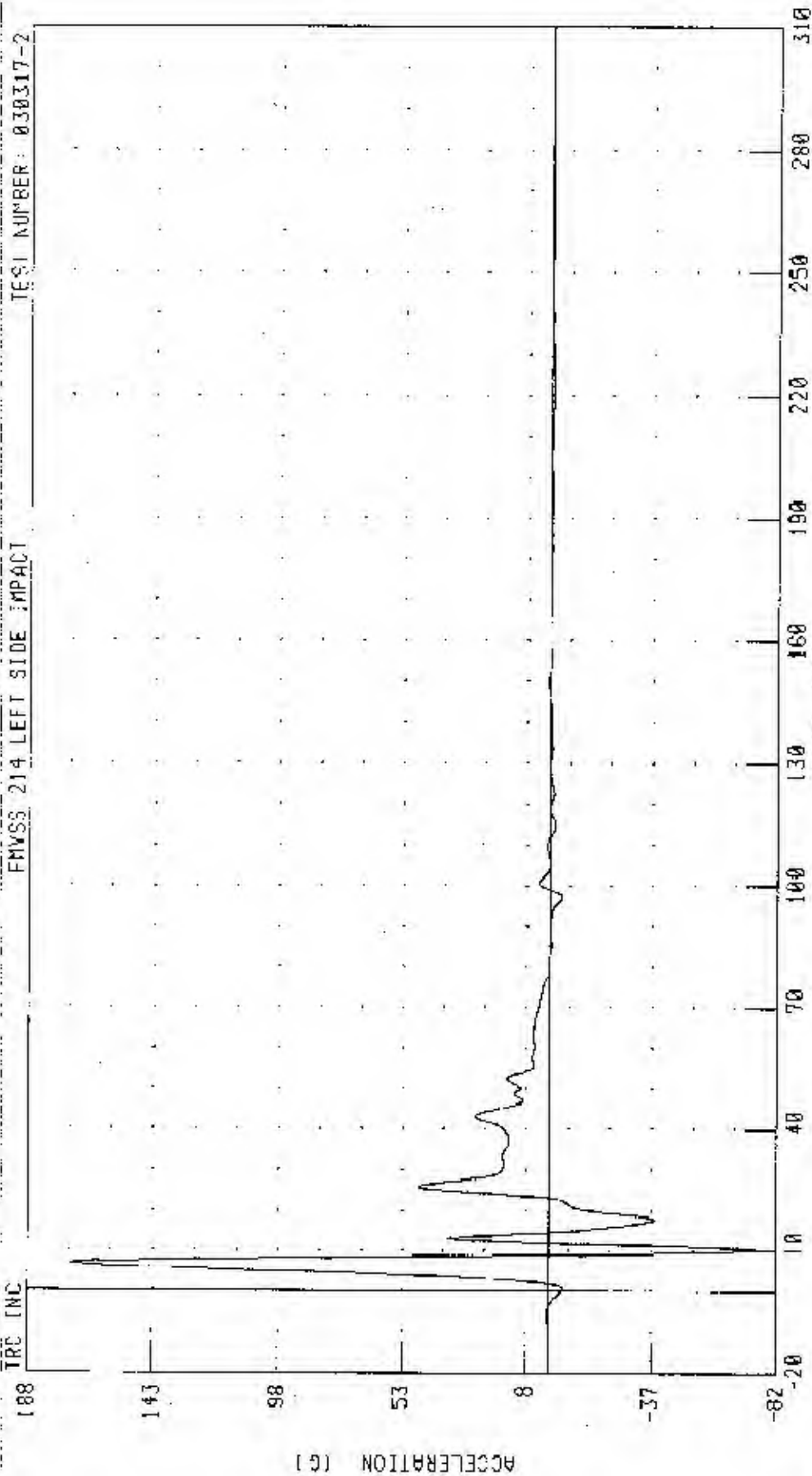
55/28 KPH 90 DEGREE SIDE IMPACT MOVING DEFORMABLE BARRIER INTO LEFT SIDE OF 2003 MAZDA 6

LEFT REAR SEAT TRACK Y-AXIS ACCELERATION

TRC INC

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030317-2



CHANNEL LRTYC1 FILTER: CH. CLASS 60

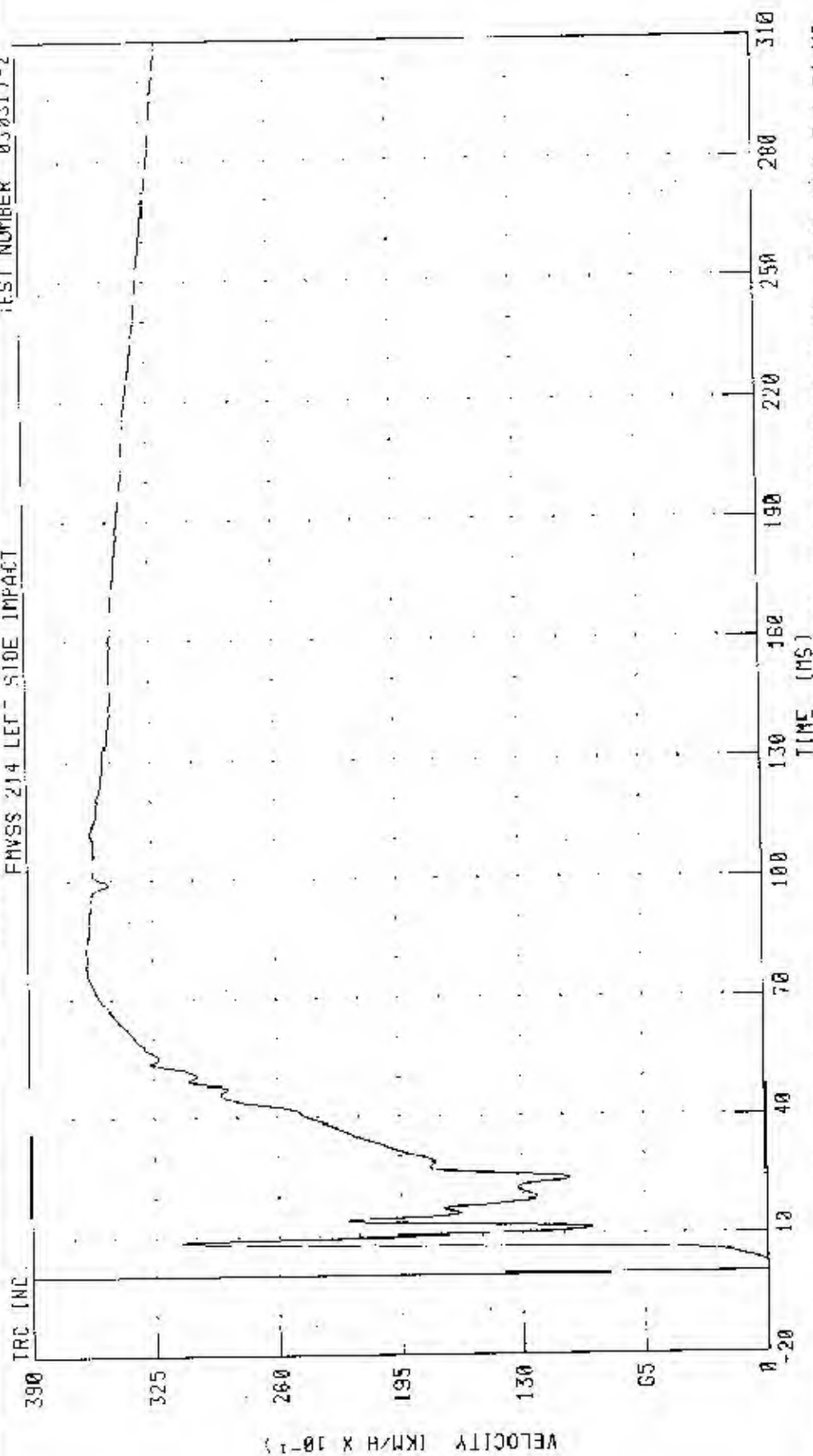
PEAK DATA: 172.61 G @ 6.88 MS; -74.75 G @ 10.24 MS

55/20 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 MAZDA 6

LEFT REAR SEAT TRACK Y-AXIS VELOCITY

TEST NUMBER 030317-2

FMVSS 214 LEFT SIDE IMPACT



PEAK DATA: 35.97 KM/H @ 82.16 MS, -0.01 KM/H @ 1.84 MS

CHANNEL LATV1 FILTER CH. CLASS 180

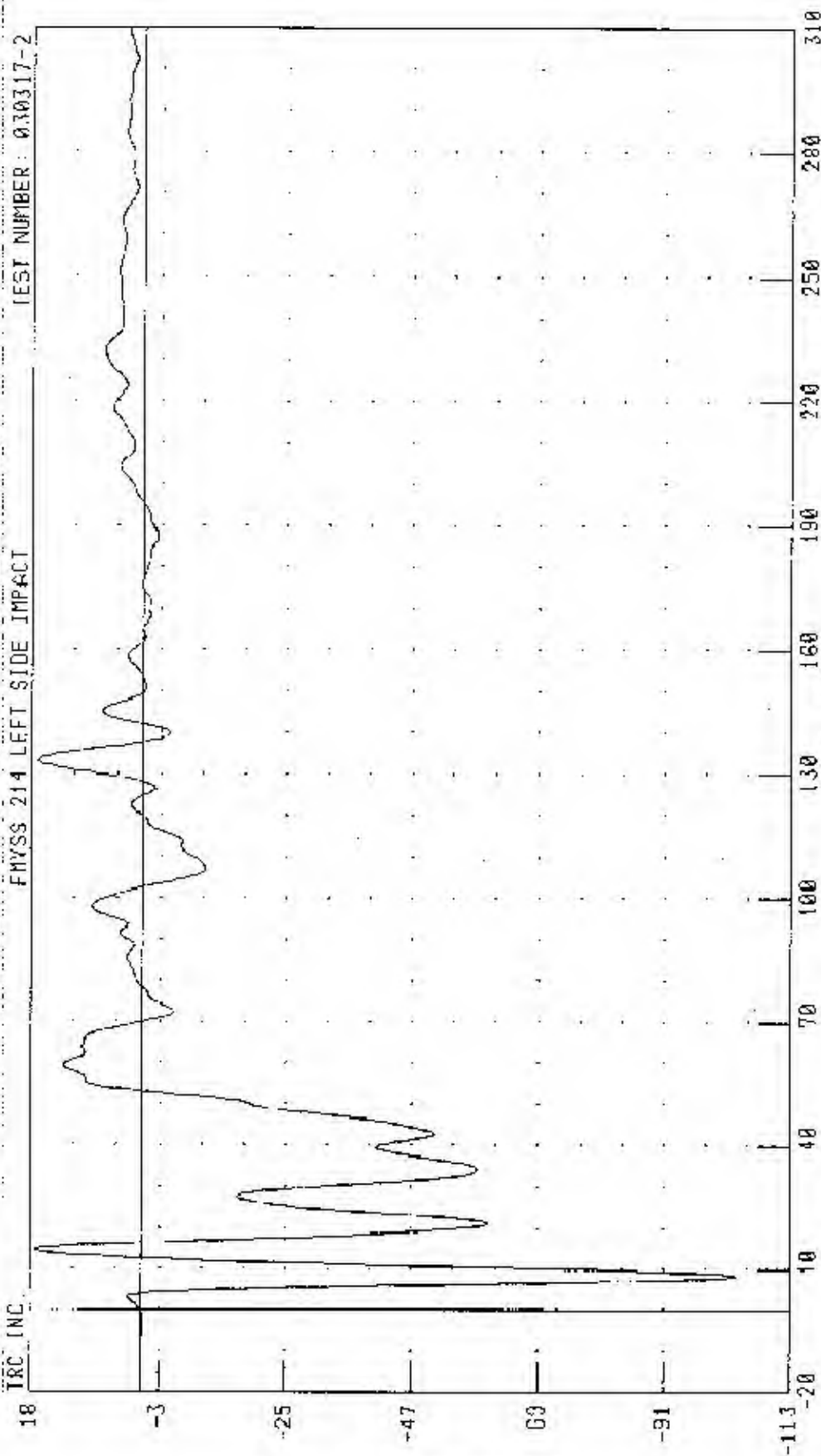
55/23 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 MAZDA 6

VEHICLE CENTER OF GRAVITY X-AXIS ACCELERATION

TRC INC.

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030317-2



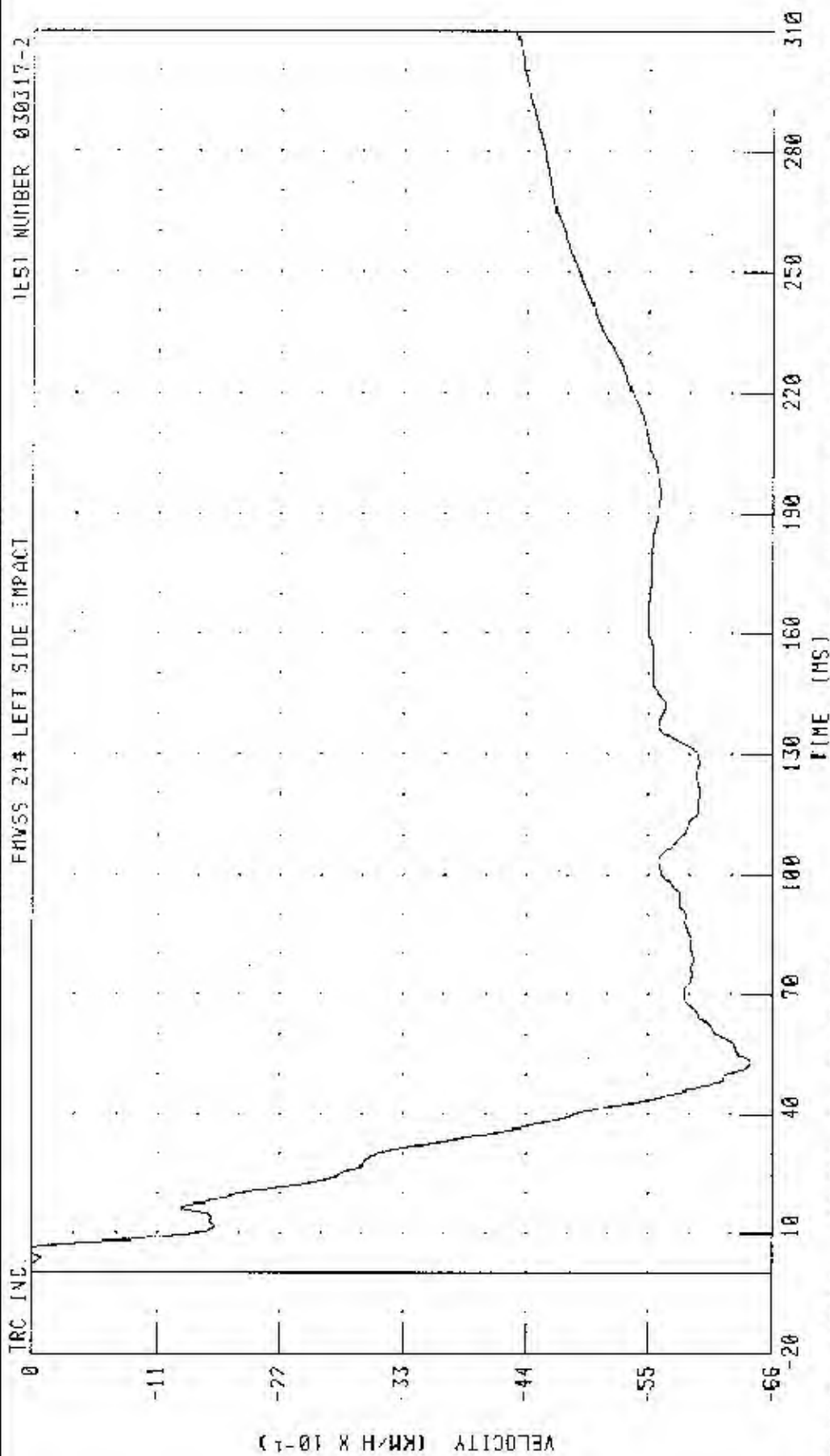
CHANNEL: VCCX01 FILTER: CH. CLASS 60

TIME (MS)

PEAK DATA: 182 G @ 14.80 MS, -10.37 G @ 8.40 MS



55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 MAZDA 6  
VEHICLE CENTER OF GRAVITY X-AXIS VELOCITY



CHANNEL: VCGXV1 FILTER: CH CLASS 180

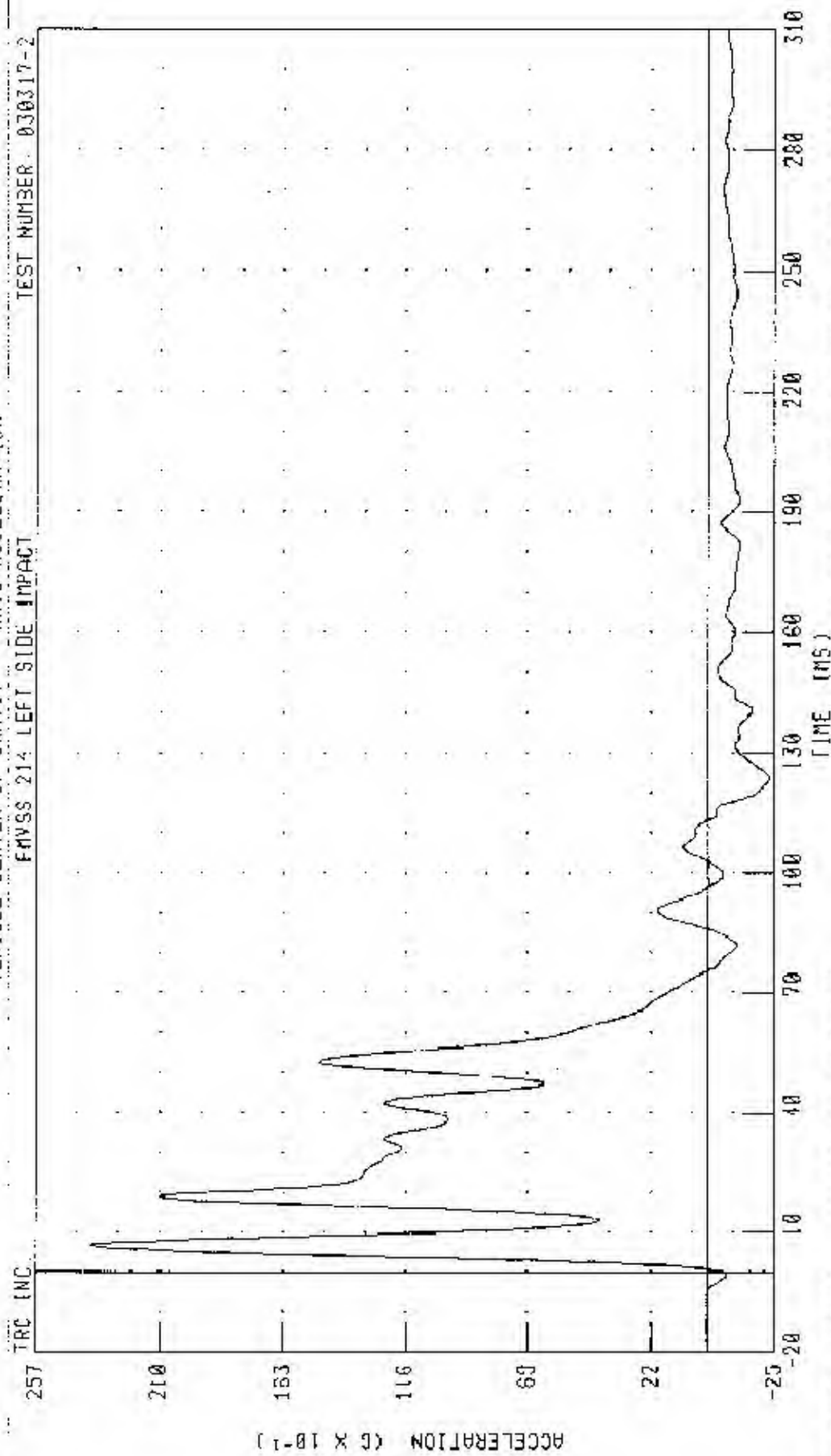
PEAK DATA: 0.08 KM/H @ 5.92 MS; -6.40 KM/H @ 53.44 MS

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 MAZDA 6

VEHICLE CENTER OF GRAVITY V-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

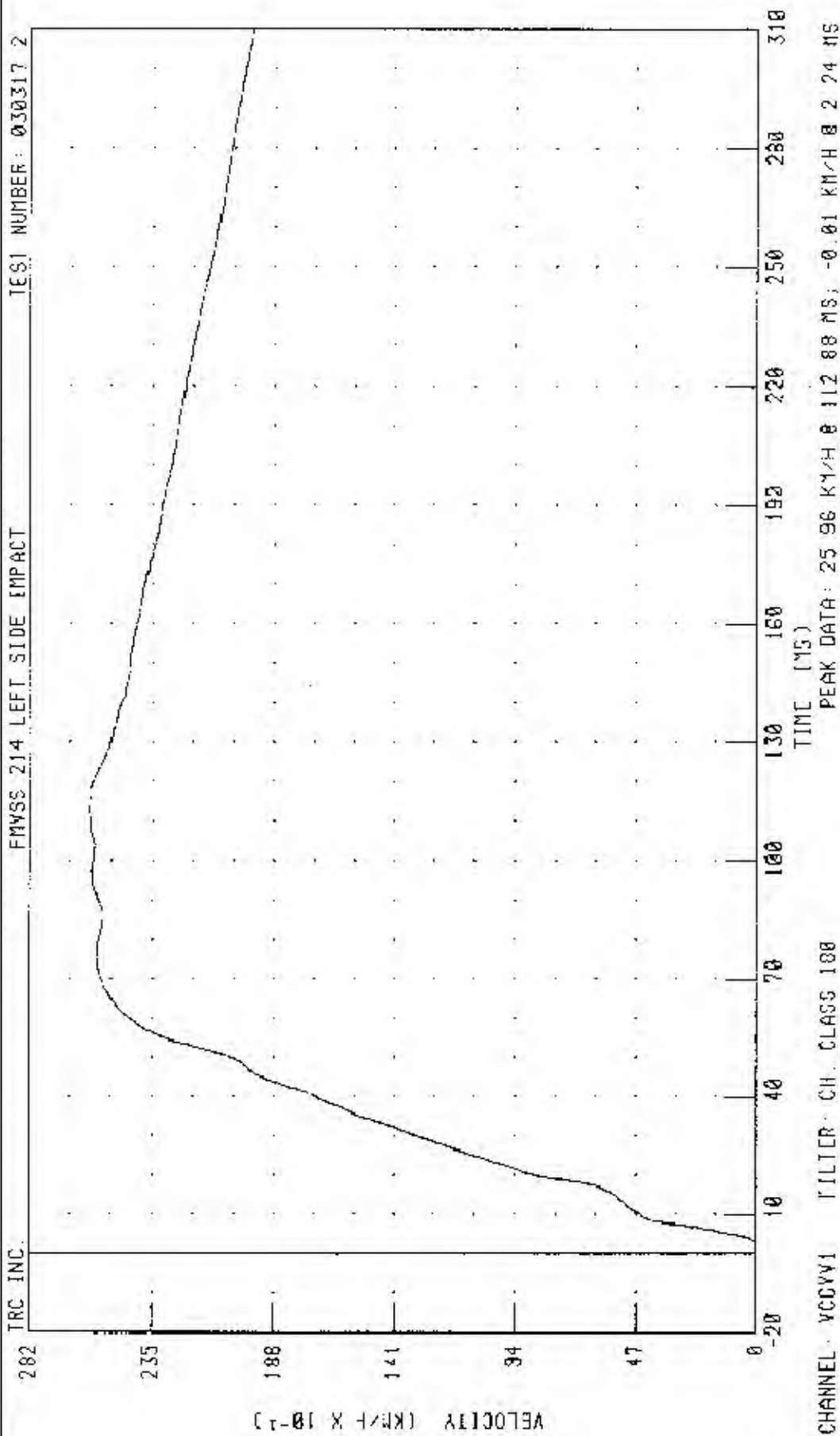
TEST NUMBER: 030317-2



CHANNEL: VCGY61 FILTER: CII, CLASS 60

PEAK DATA: 23.68 G @ 6.88 MS; -2.29 G @ 123.34 MS

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 MAZDA 6  
 VEHICLE CENTER OF GRAVITY Y-AXIS VELOCITY





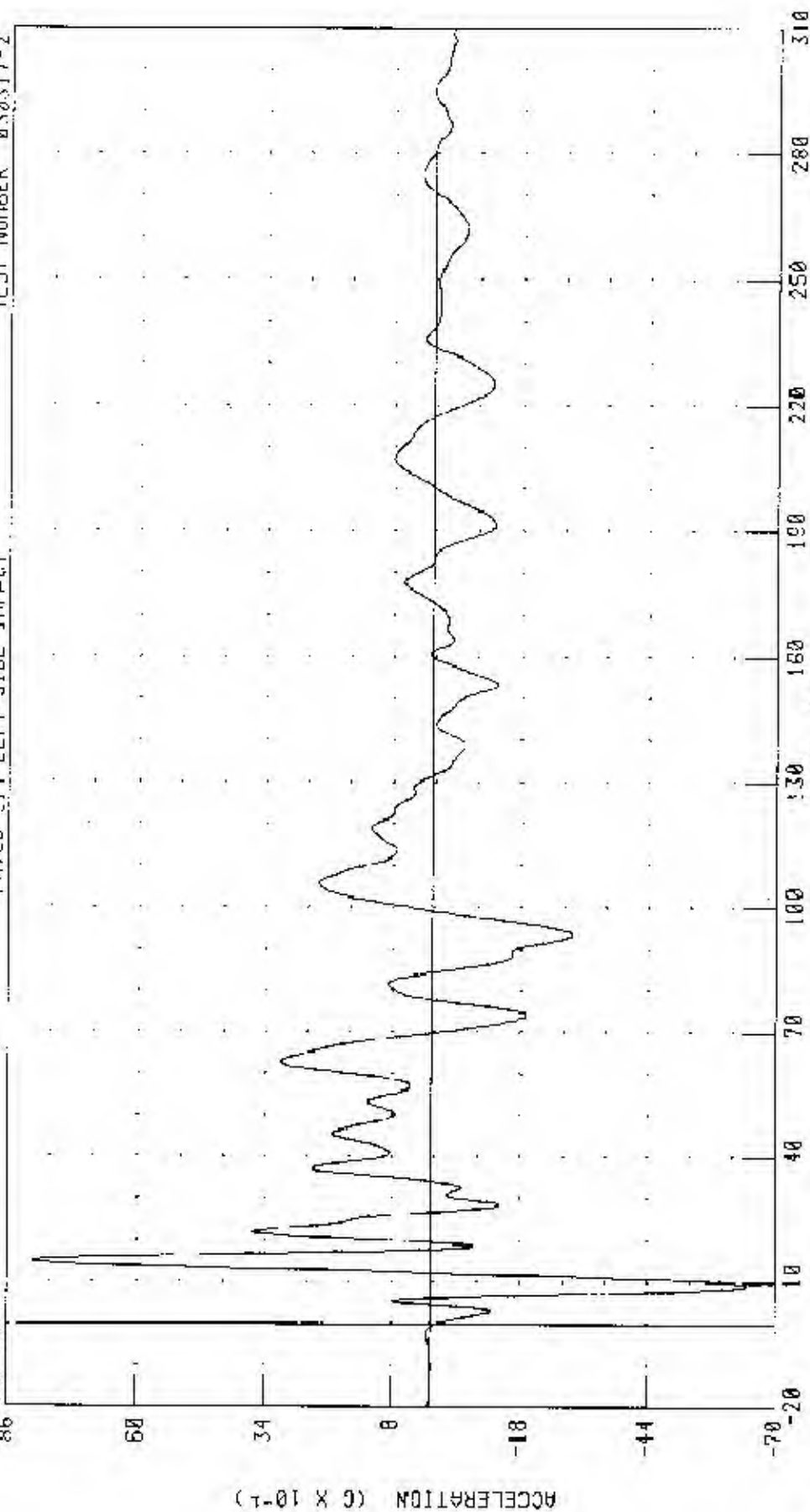
55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 200S MAZDA 6

VEHICLE CENTER OF GRAVITY Z-AXIS ACCELERATION

TRC INC

FVSS 214 LEFT SIDE IMPACT

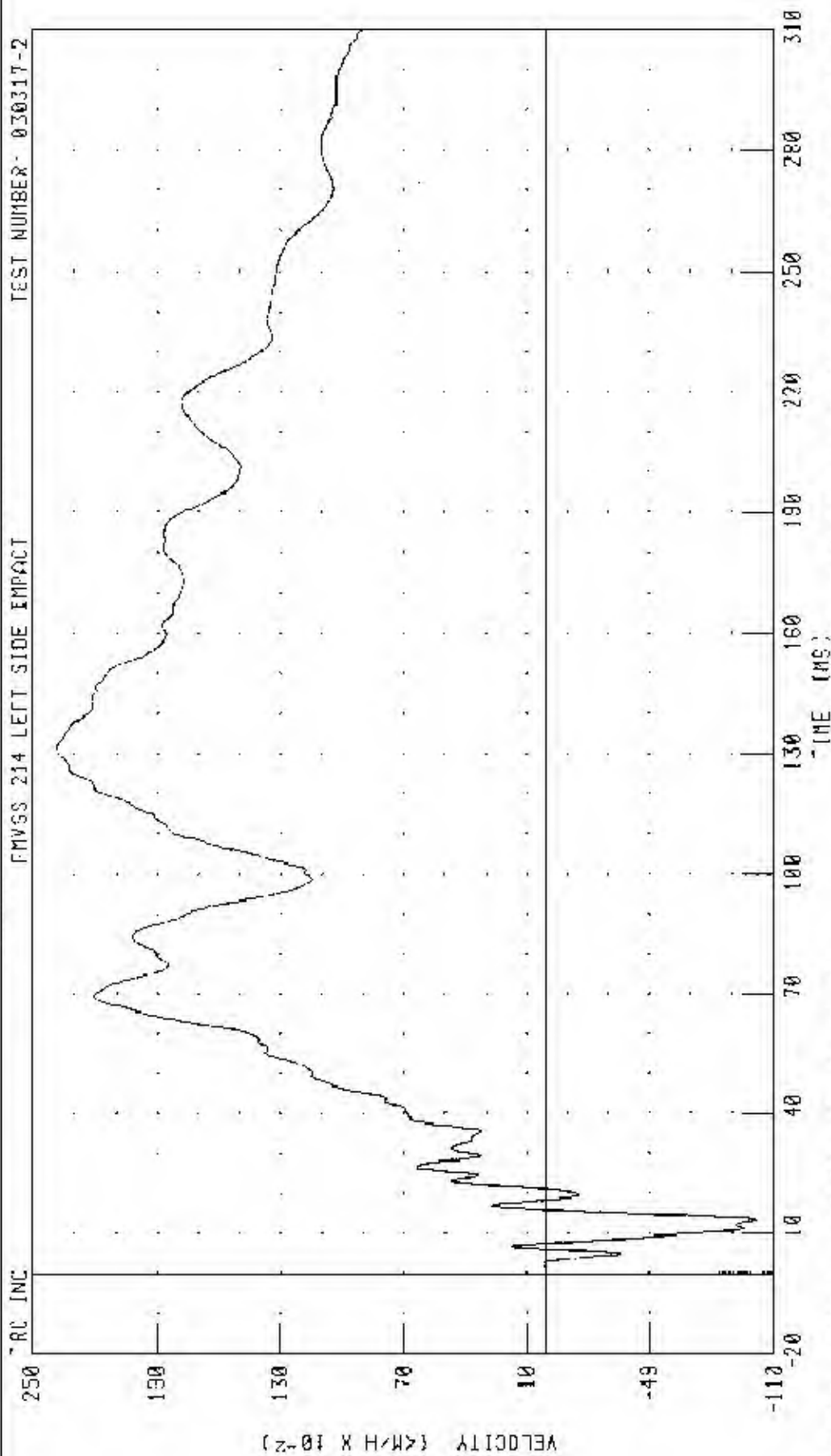
TEST NUMBER 030317-2



CHANNEL: VCCZC1 FILTER: CH. CLASS 6A

PEAK DATA: 0 09 0 0 15.12 MS; -6.44 0 0 9 28 MS

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 MAZDA 6  
VEHICLE CENTER OF GRAVITY Z-AXIS VELOCITY



CHANNEL VCC2V1 FILTER: CH CLASS 180

PEAK DATA 2.38 KM/H @ 131.28 MS; -1.01 KM/H @ 13.44 MS

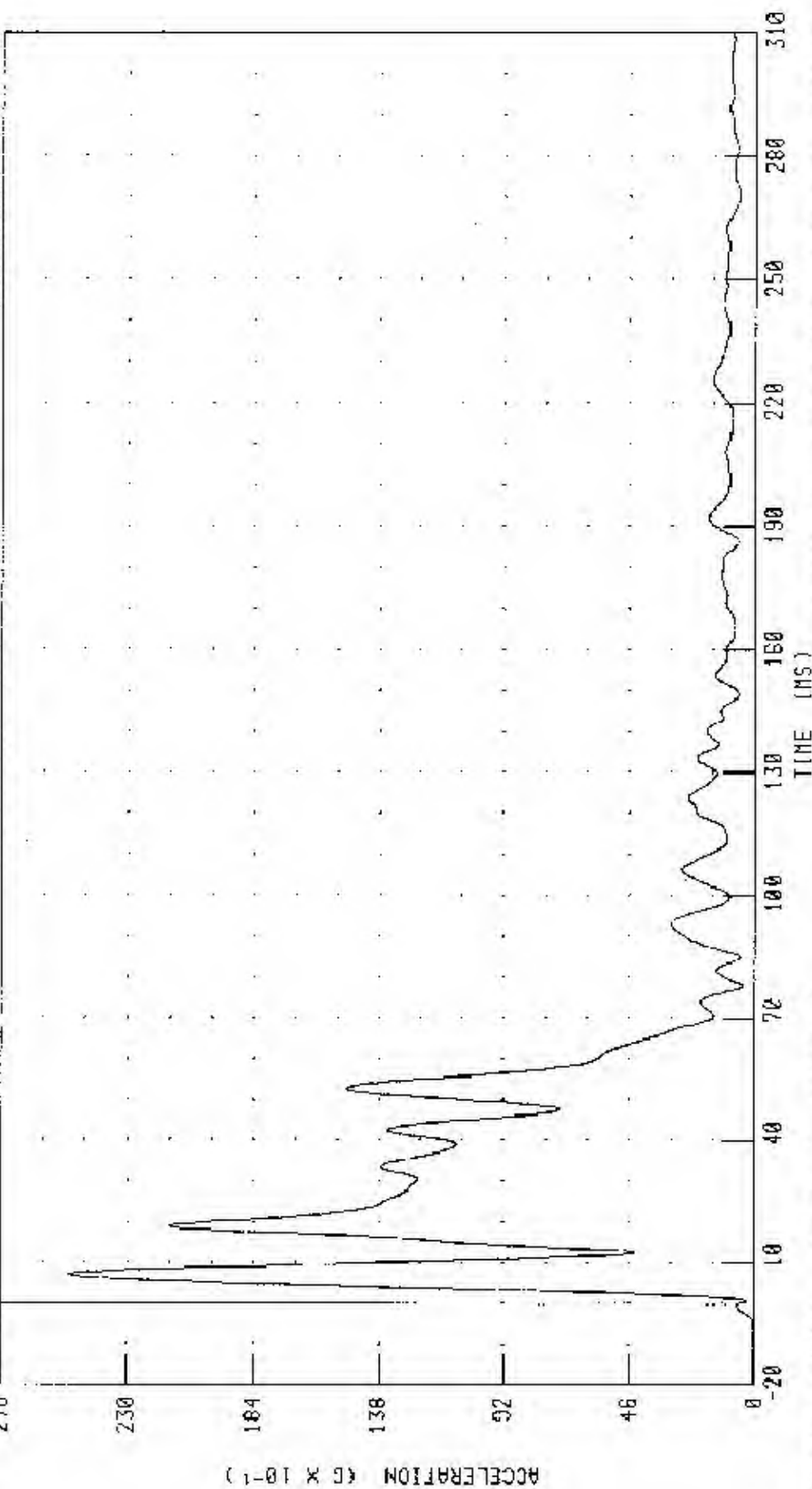
55/28 <PH 90 DEGREE SIDE IMPACT MOVING DEFORMABLE BARRIER INTO LEFT SIDE OF 2003 MAZDA 6

VEHICLE CENTER OF GRAVITY RESULTANT ACCELERATION

TRC INC.

CHVSS 214 LEFT SIDE IMPACT

TEST NUMBER 030317-2



CHANNEL: VCGR01 FILTER: CH, CLASS 60

PEAK DATA: 25.14 G @ 7.28 MS, 0.02 G @ -18.32 MS

MDB Instrumentation Plots

Acceleration Data - Filter Class 60

Integration Data - Filter Class 180



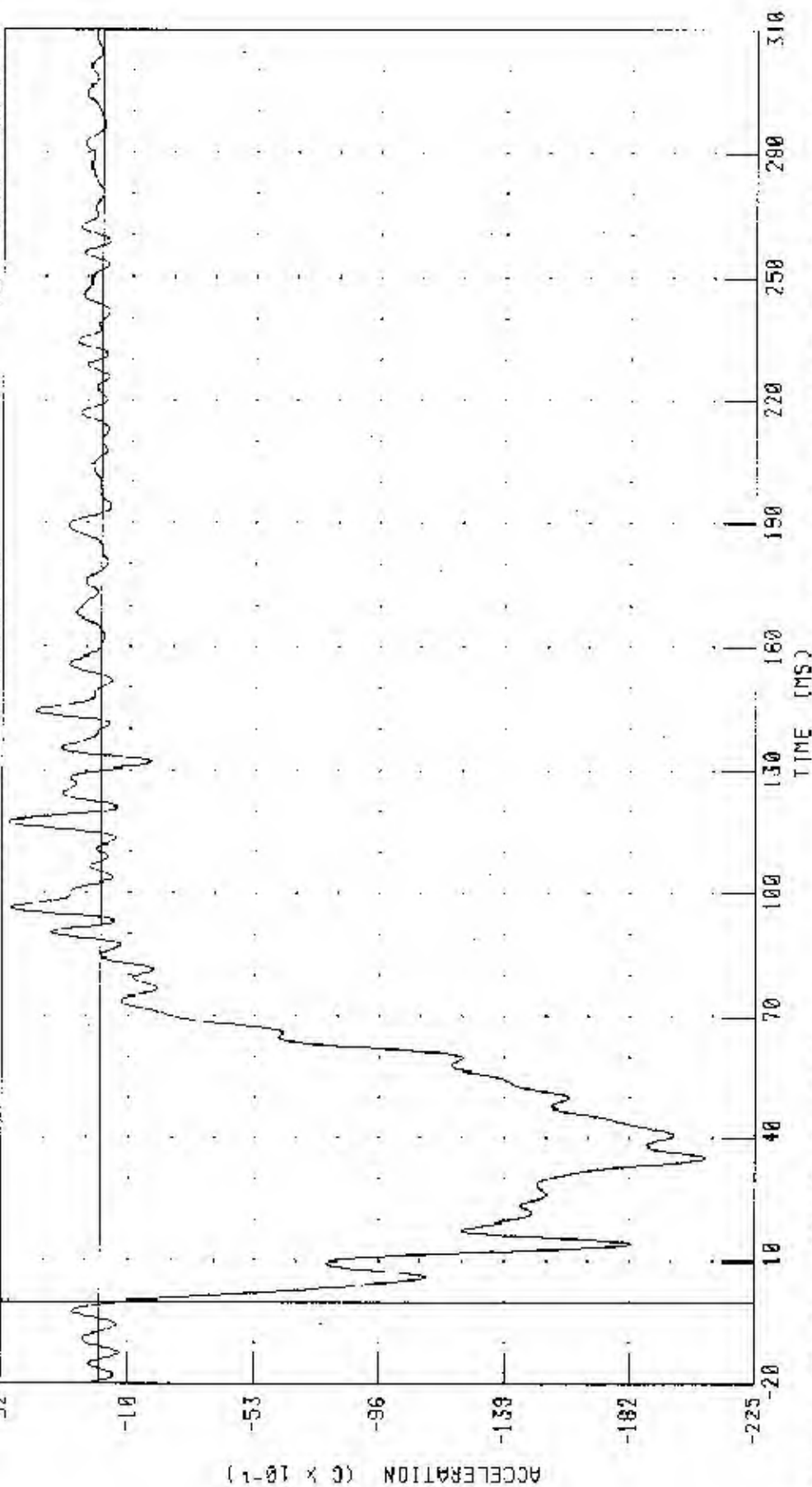
55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 MAZDA 6

NDB CENTER OF GRAVITY X AXIS ACCELERATION

RT INC

PHYS 214 LEFT SIDE IMPACT

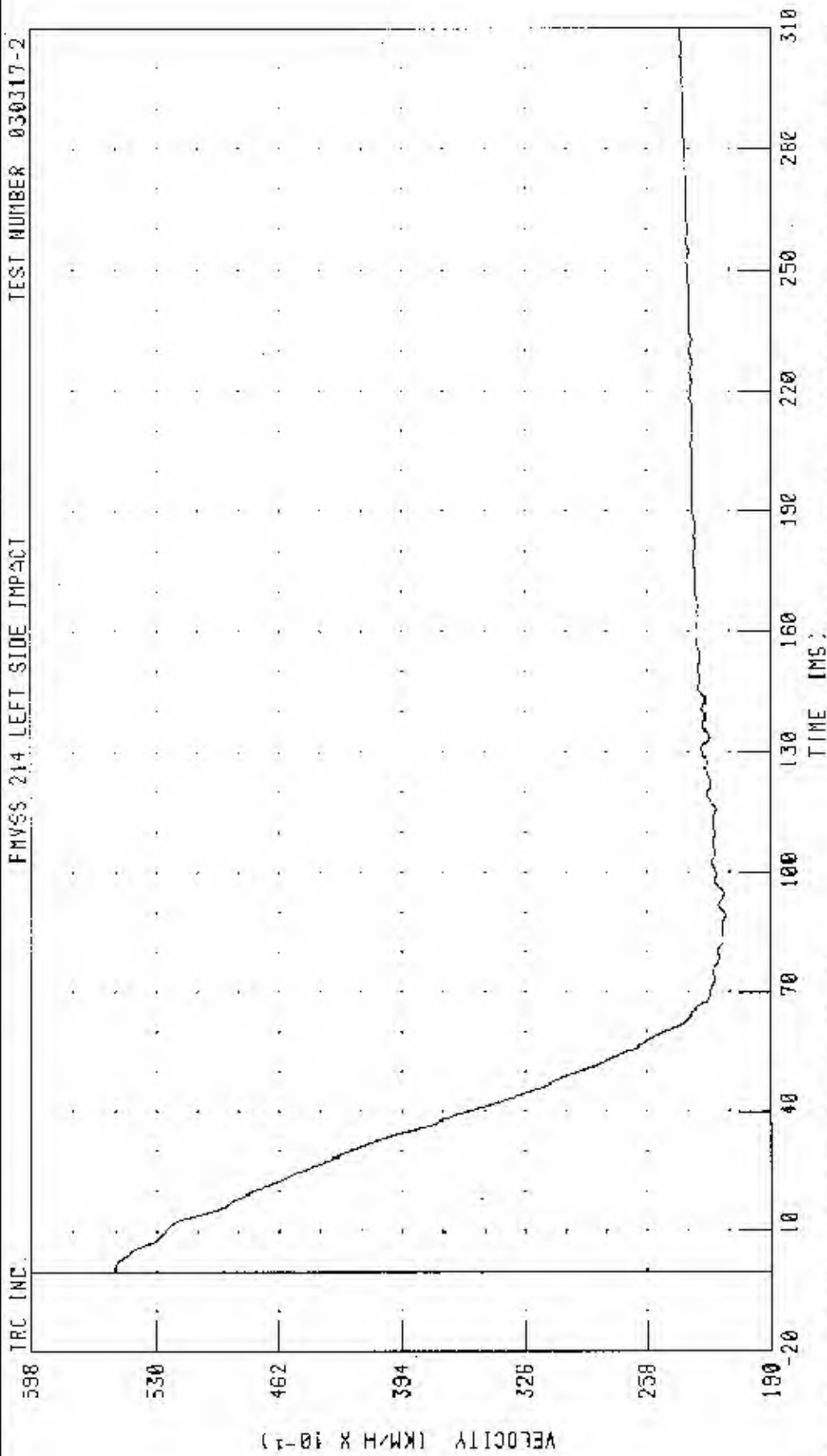
TEST NUMBER 030317-2



CHANNEL: BCGXG1 FILTER: CH. CLASS 60

PEAK DATA: 3.07 G @ 117.36 MS, -20.83 G @ 35.28 MS

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING OFFSHORE BARRIER) INTO LEFT SIDE OF 2003 MAZDA 6  
 MD3 CENTER OF GRAVITY X-AXIS VELOCITY



CHANNEL: BCCXV1 FILTER: CH CLASS 180

PEAK DATA 55.30 KM/H @ 0.00 MS; 21.45 KM/H @ 89.20 MS

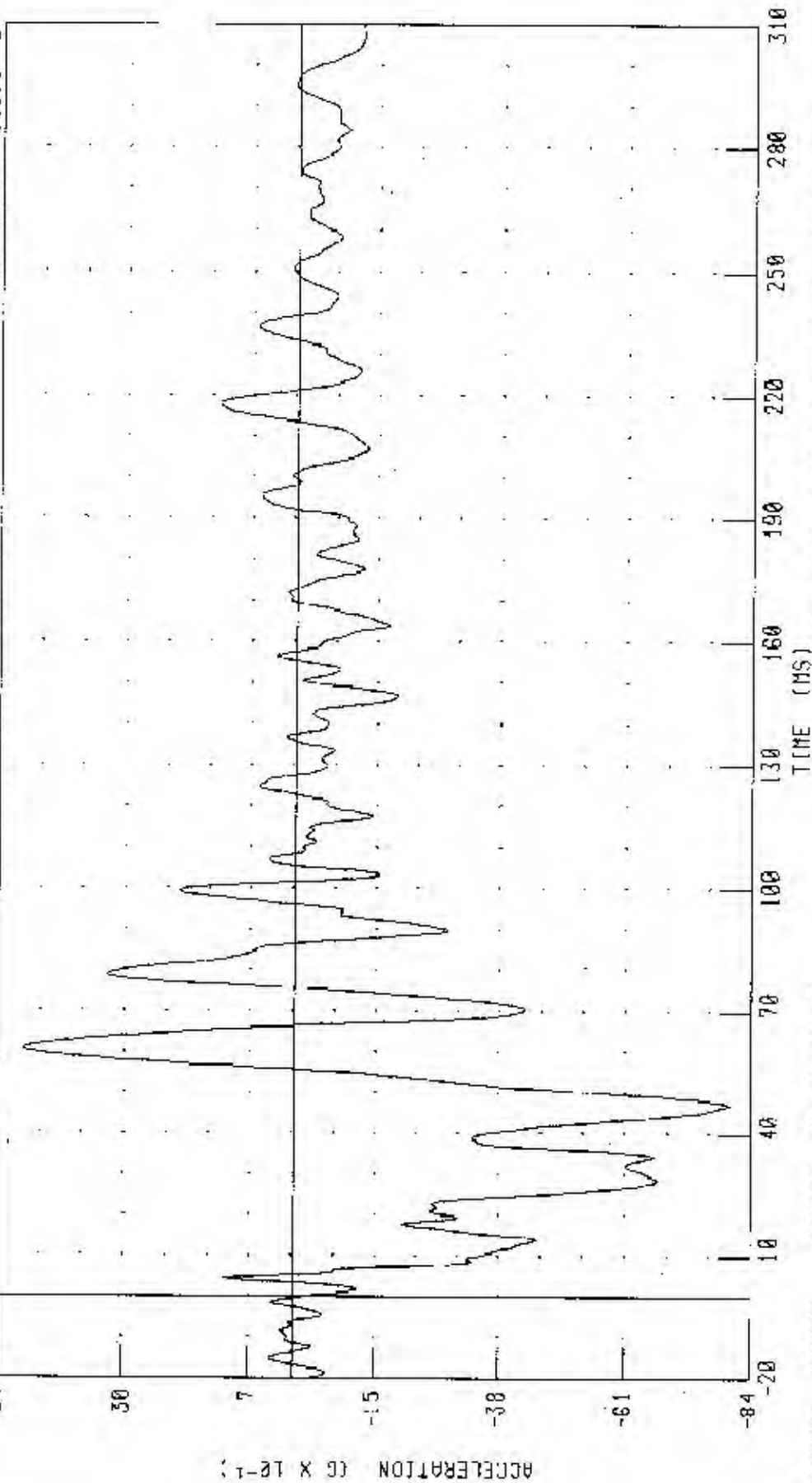
55/20 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 MAZDA 6

MOB CENTER OF GRAVITY Y-AXIS ACCELERATION

TRC INC.

FMVSS 214 LEFT SIDE IMPACT

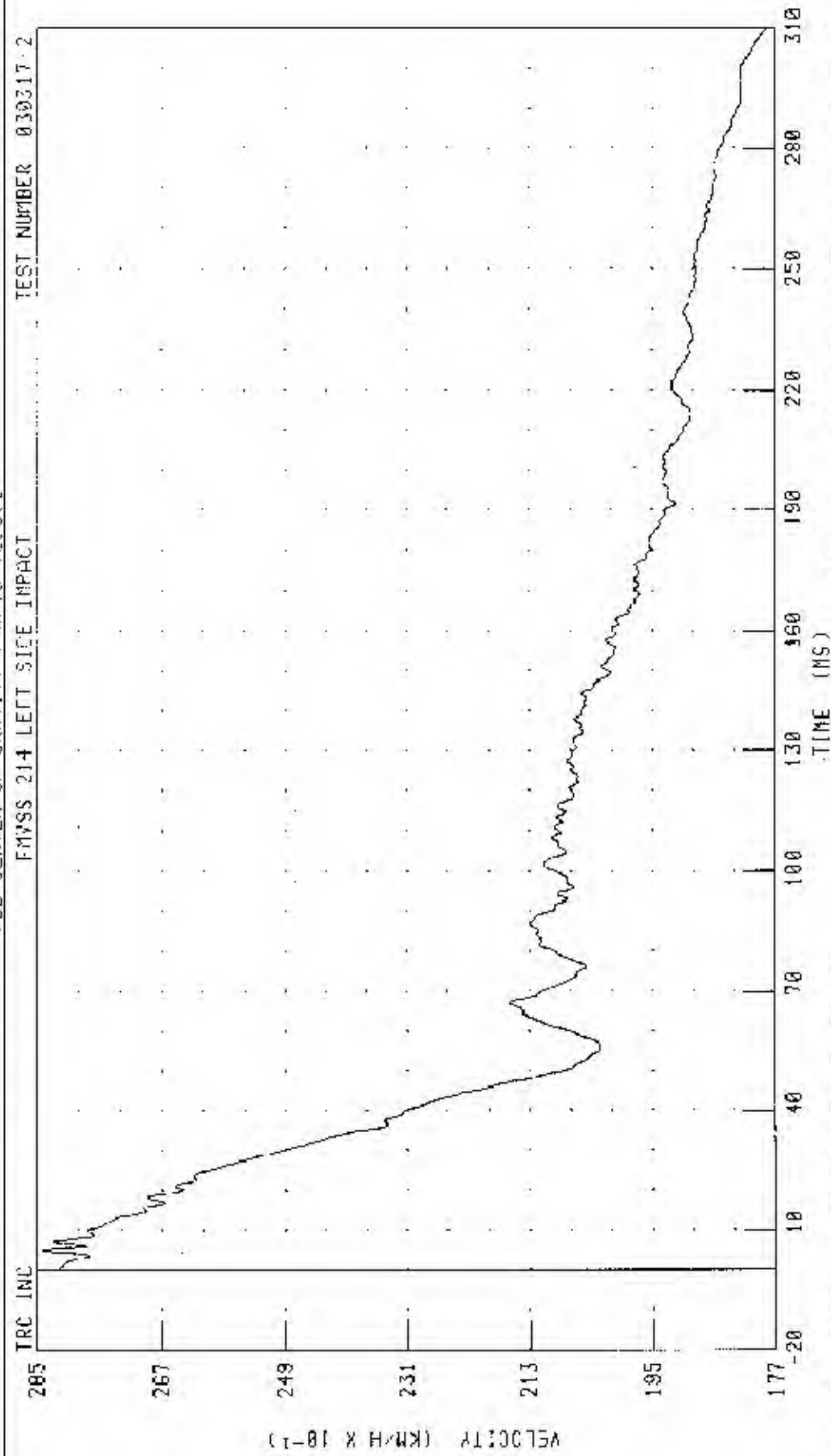
TEST NUMBER 030317-2



CHANNEL BCCY01 FILTER: CH CLASS 60

PEAK DATA: 4.96 G @ 50.72 MS; -8.00 G @ 47.28 MS

55.78 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 MAZDA 6  
 FUE CENTER OF GRAVITY Y-AXIS VELOCITY



CHANNEL: RDCVYJ FILTER: CH. CLASS 180  
 PEAK DATA: 28.41 KM/H @ 5.12 MS; 17.84 KM/H @ 310.00 MS



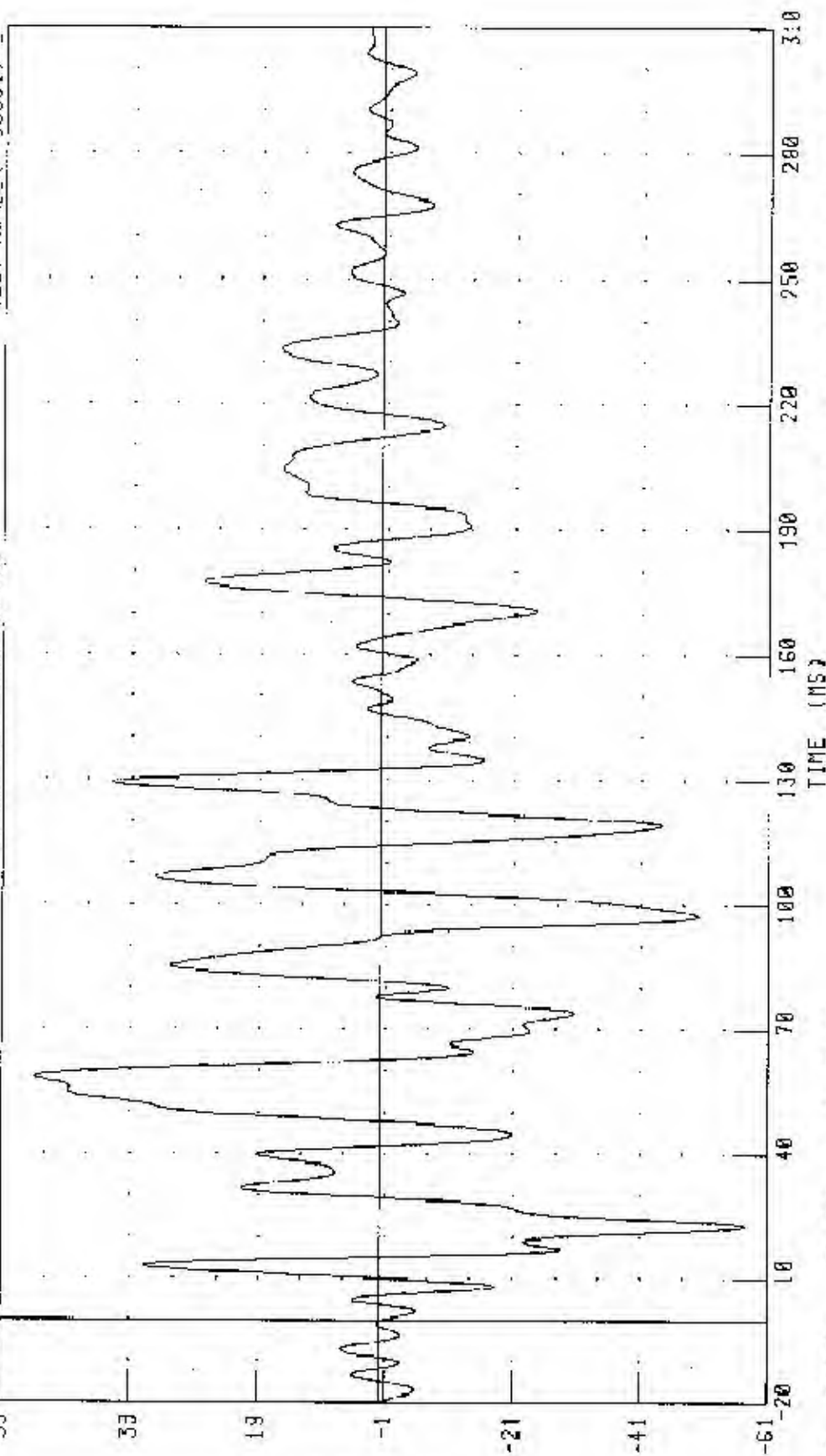
55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMLABLE BARRIER) INTO LEFT SIDE OF 2003 MAZDA IS

NOR CENTER OF GRAVITY Z-AXIS ACCELERATION

TRC INC

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER 030317-2



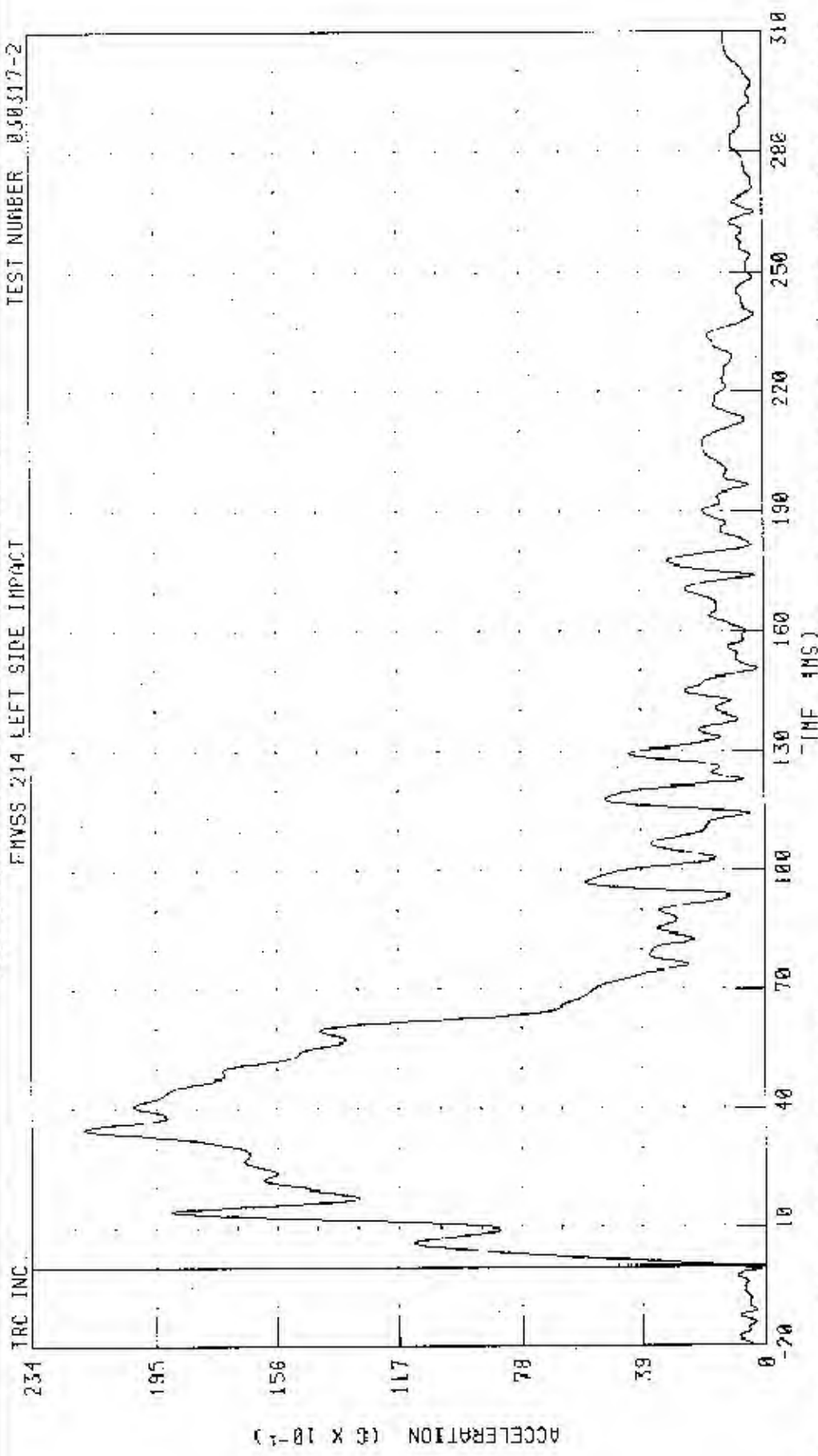
CHANNEL BCGZG1

FILTER: CH CLASS 60

TIME (MS)

PEAK DATA: 5 39 G 8 58 56 MS, -5.76 G 8 22 80 MS

55/28 KPH 30 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO EAST SIDE OF 2003 MAZDA S  
 PCR CENTER OF GRAVITY RESULTANT ACCELERATION



PEAK DATA: 21 79 0 0 35.12 MS; 0.15 0 0 -0 56 MS

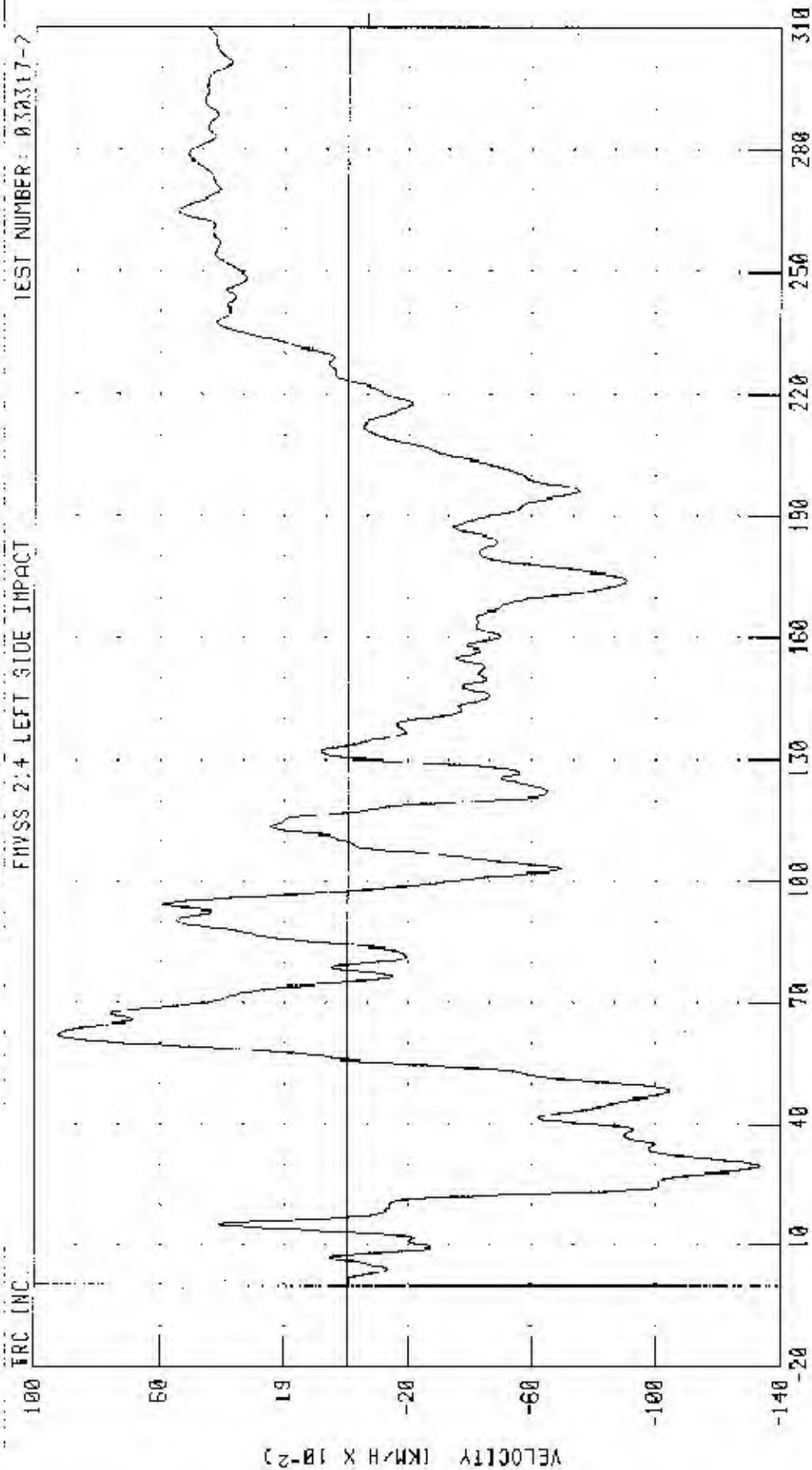
CHANNEL: BCGR01 FILTER: CH CLASS: 60

55/23 KPH 30 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 MAZDA R

FOR CENTER OF GRAVITY Z-AXIS VELOCITY

FMVSS 2.4 LEFT SIDE IMPACT

TEST NUMBER: 030317-2

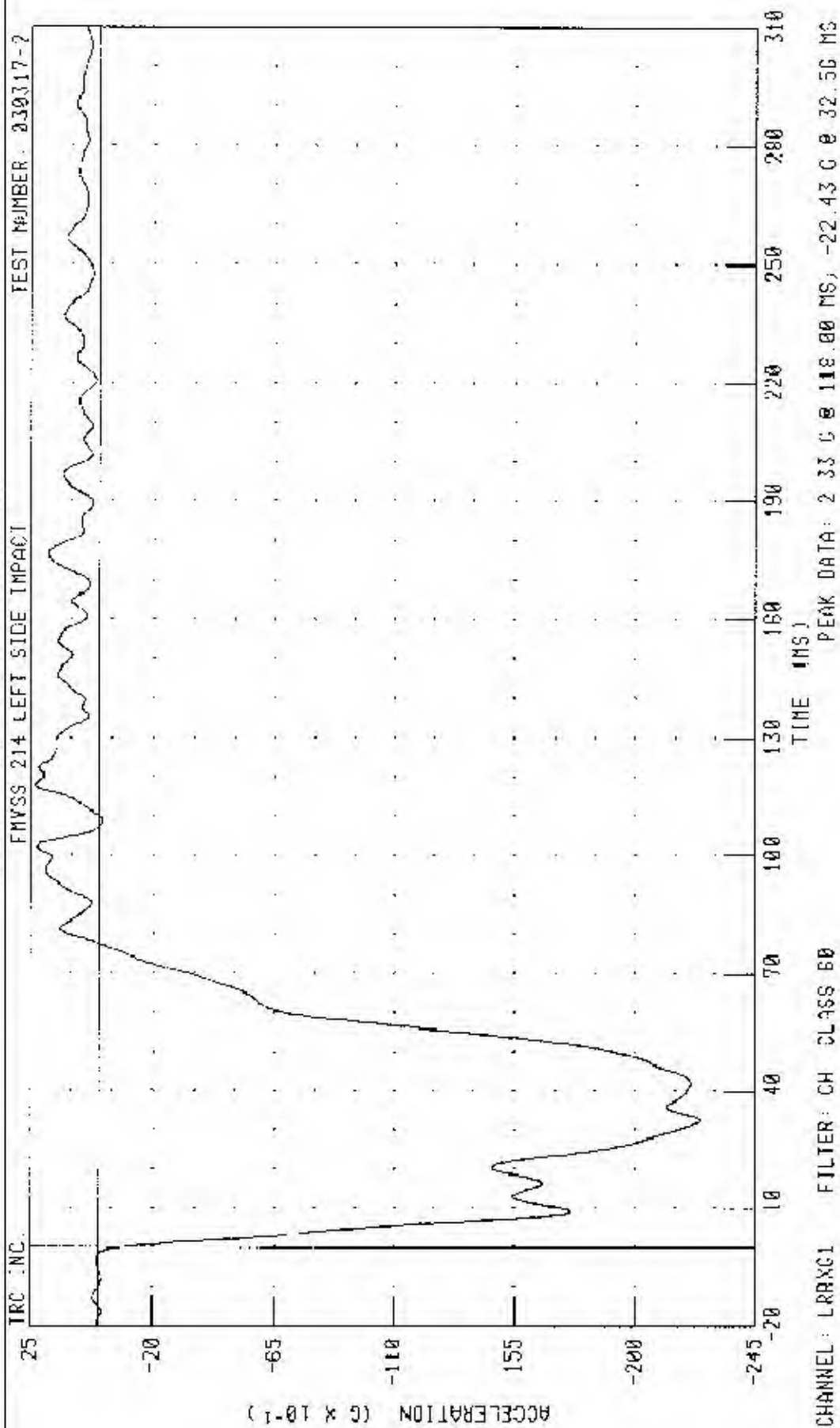


TIME (MS)

PEAK DATA 0 92 KM/H @ 62 32 MS; -1.33 KM/H @ 29 68 MS

CHANNEL: BCGZV1 FILTER: CH. CLASS 100

55/20 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 20R3 MA70A S  
 MOB LEFT REAR X-AXIS ACCELERATION



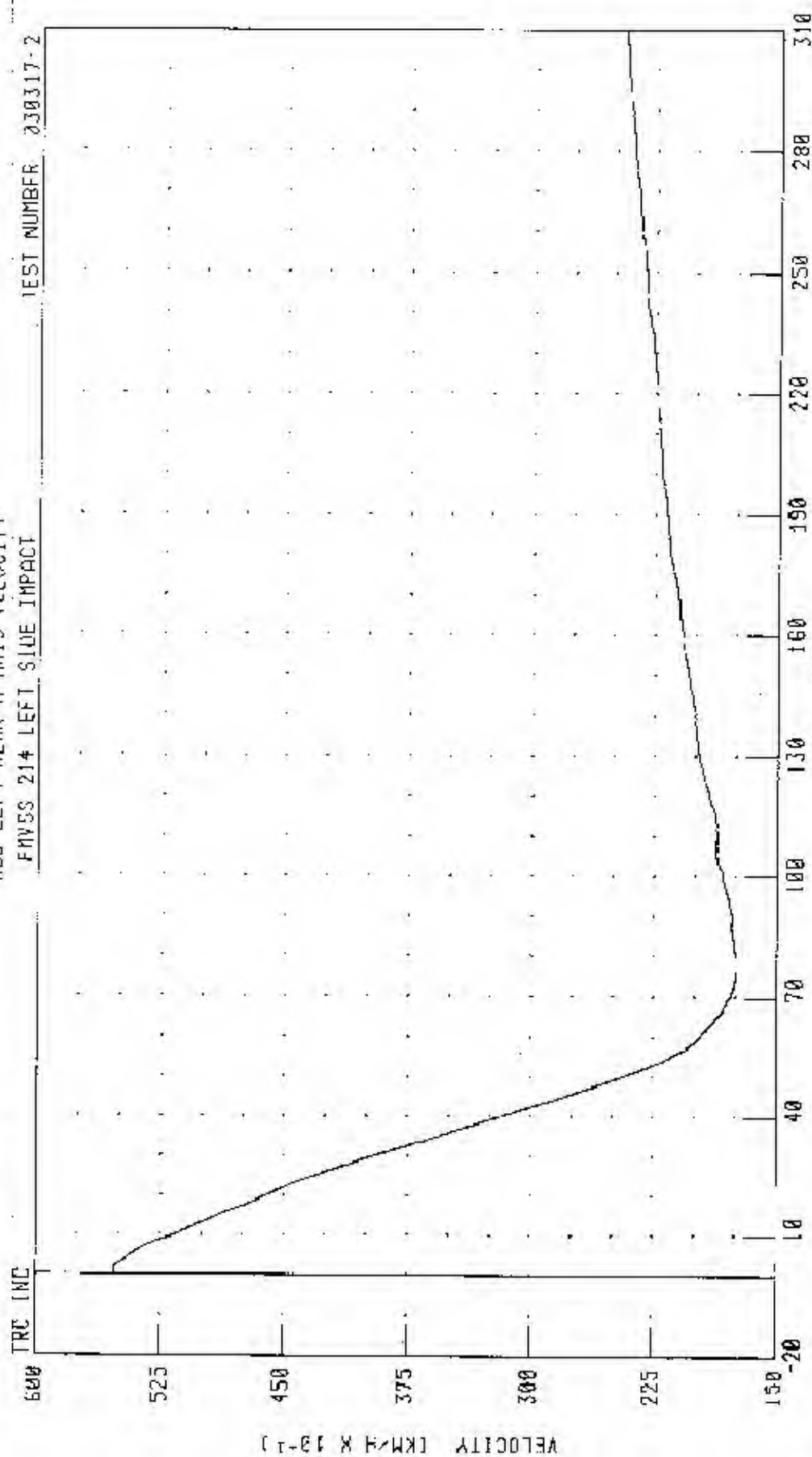


55/28 KPH 90 DEGREE SIDE IMPACT MOVING DEFORMABLE BARRIER INTO LEFT SIDE OF 2003 MAZDA G

MOB LEFT REAR X-AXIS VELOCITY

PRVSS 214 LEFT SIDE IMPACT

TEST NUMBER 030317-2



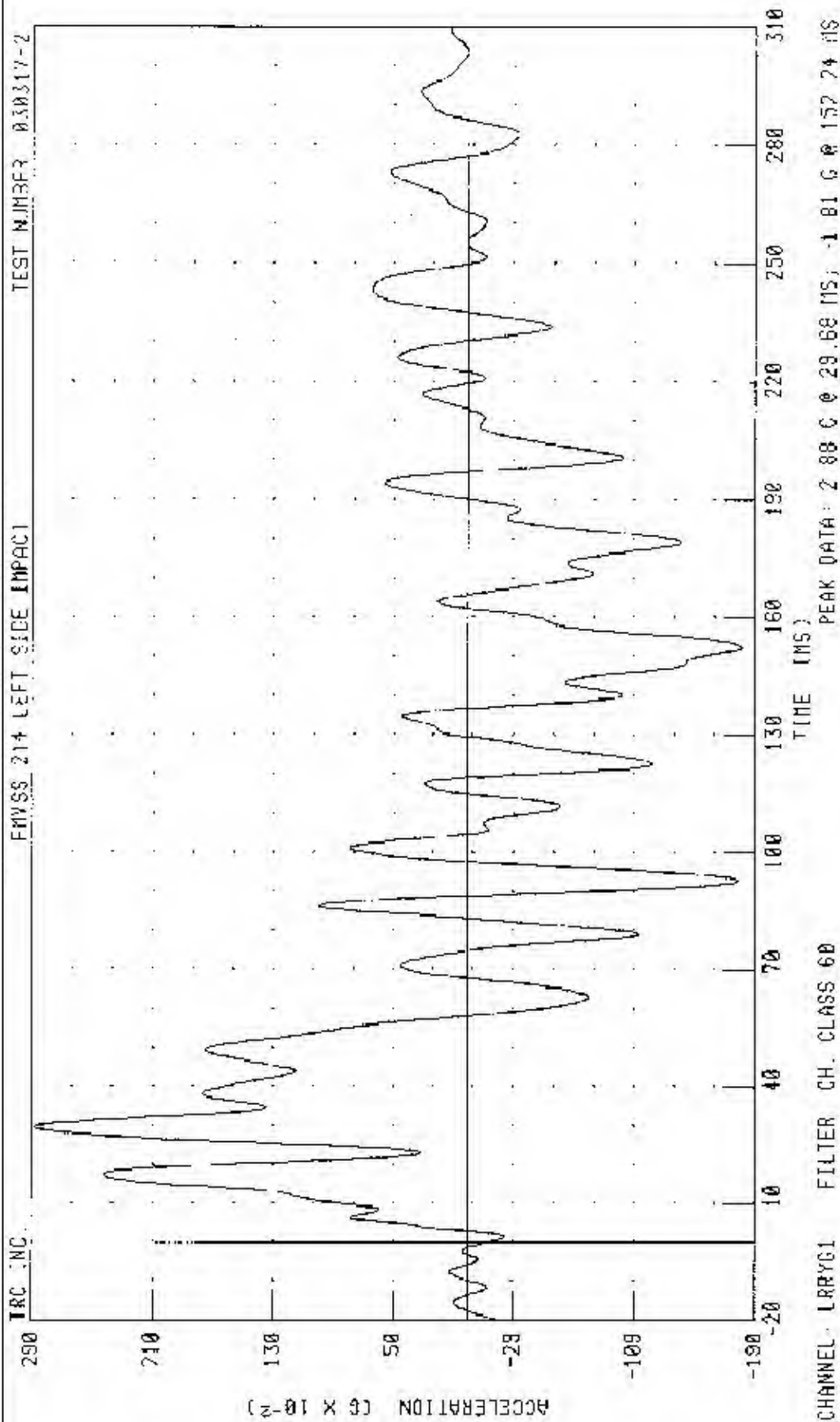
TIME (MS)

CHANNEL LRRXV1 FILTER: CH. CLASS 180

PEAK DATA 55.34 KM/H @ 112 MS; 17.41 KM/H @ 79.28 MS

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 MAZDA 6

MOB LEFT REAR Y-AXIS ACCELERATION



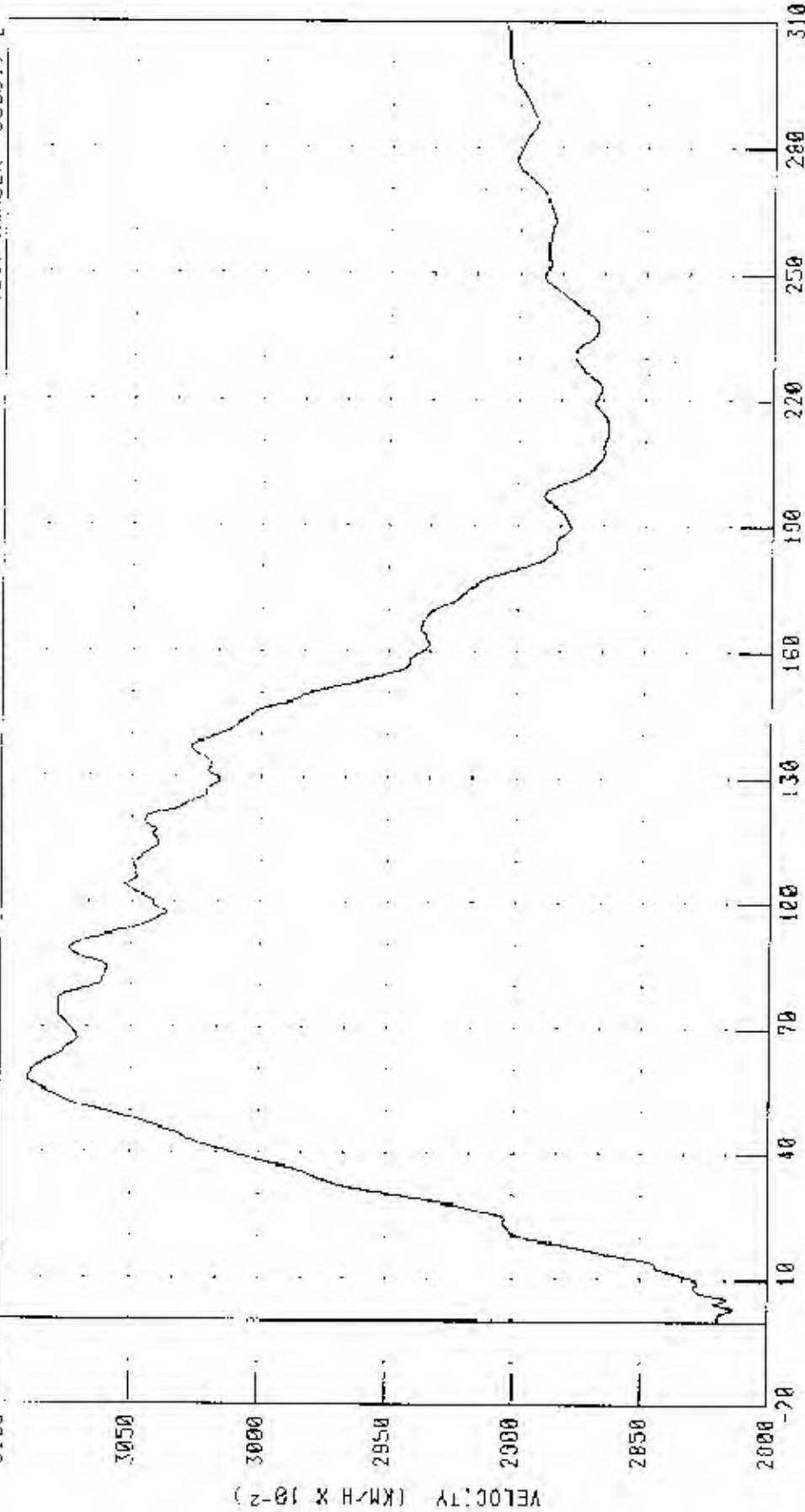
55/28 KPH 90 DEGREE SIDE IMPACT MOVING DEFORMABLE BARRIER INTO LEFT SIDE OF 2003 MAZDA 6

HUB LEFT REAR Y-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER 030317-2

TRC INC.



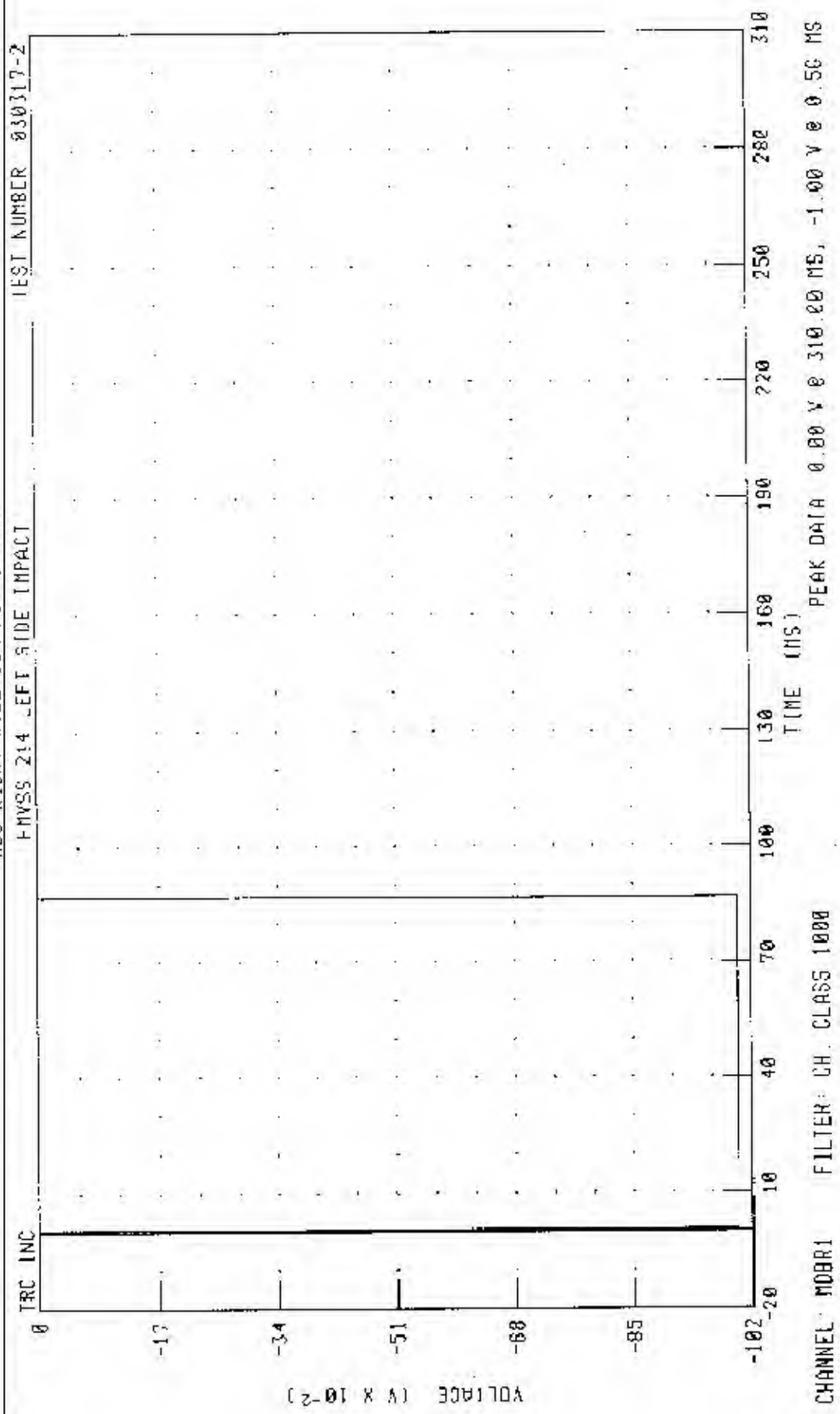
TIME (MS)

PEAK DATA 30.90 KM/H @ 57.52 MS, 28 14 <M/H @ 2 88 MS

CHANNEL: LRRYV1 FILTER: CH. CLASS 100

55/28 KPII 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 MAZDA 6

100 RIGHT SIDE CONTACT SWITCH



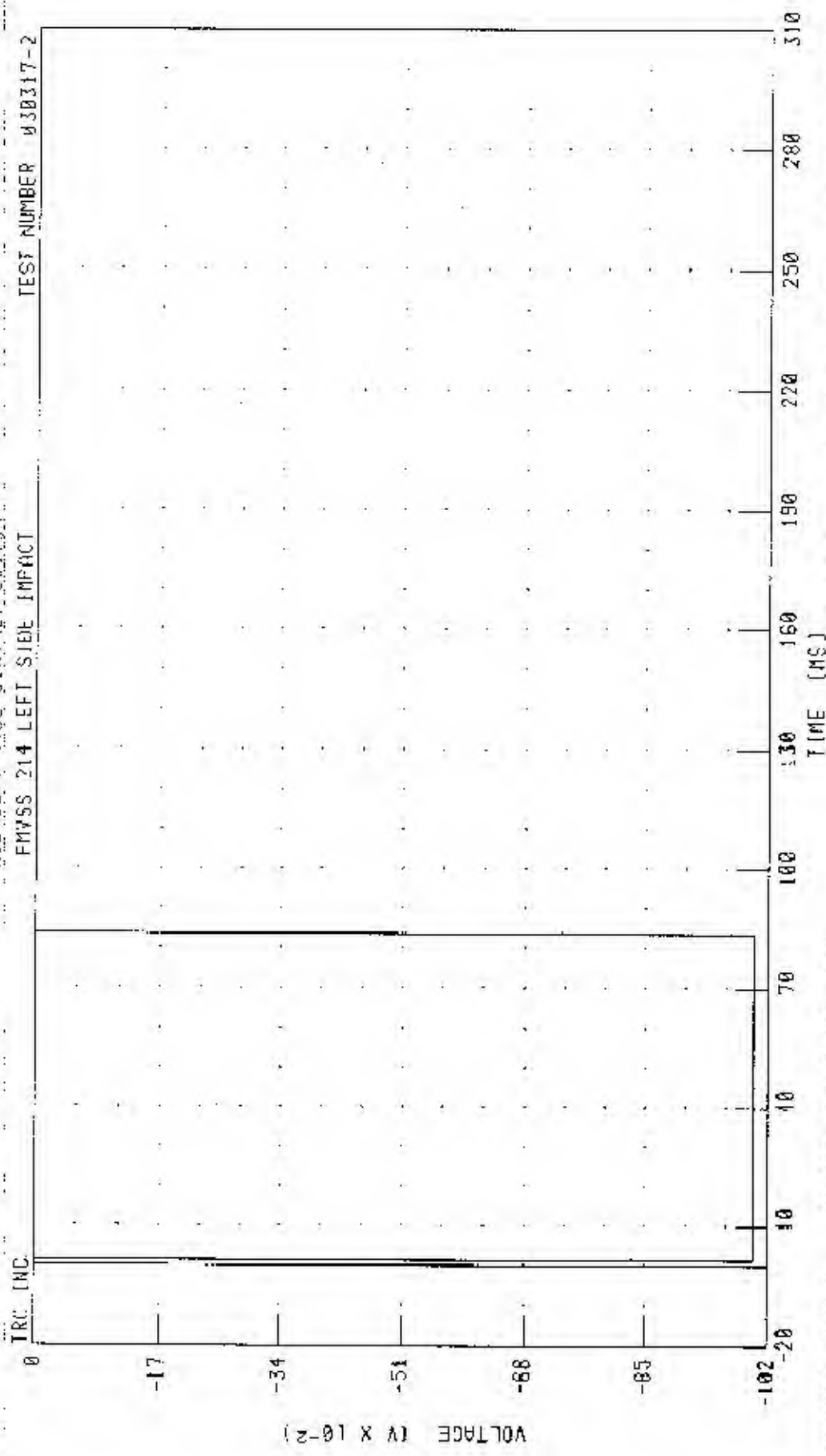
TEST NUMBER 030317-2



55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 MAZDA 6

MOB LEFT SIDE CONTACT SWITCH  
FMYSS 214 LEFT SIDE IMPACT

TEST NUMBER 030317-2



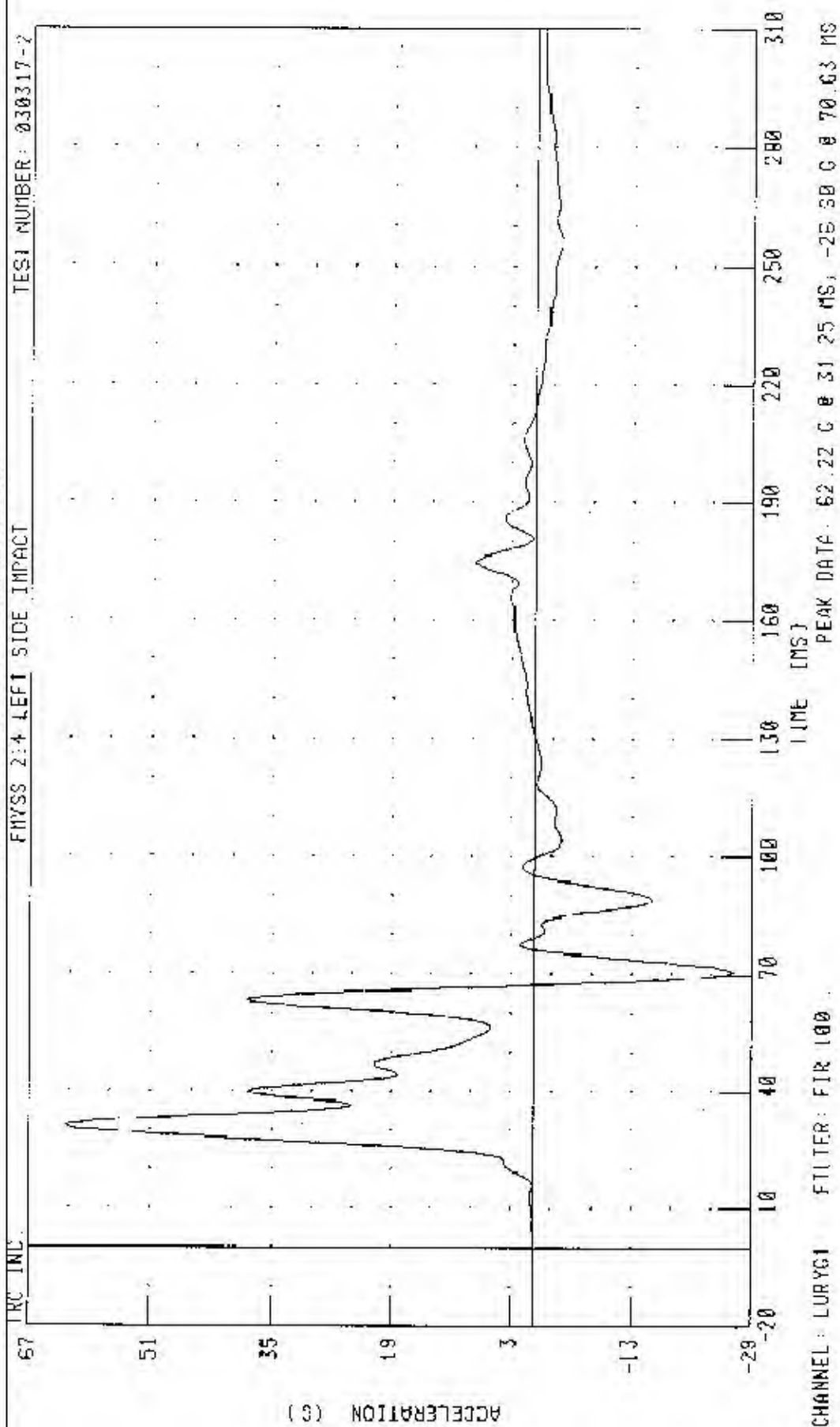
CHANNEL MOBL1 FILTER: CH. CLASS 1800

PFAPK DATA: 0 00 V @ 310 00 MS, -1.00 V @ 1.36 MS

Driver and Passenger Dummy Instrumentation Plots  
Acceleration Data - FIR Filtered

55/20 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 MAZDA 6

DRIVER UPPER RIB Y-AXIS ACCELERATION



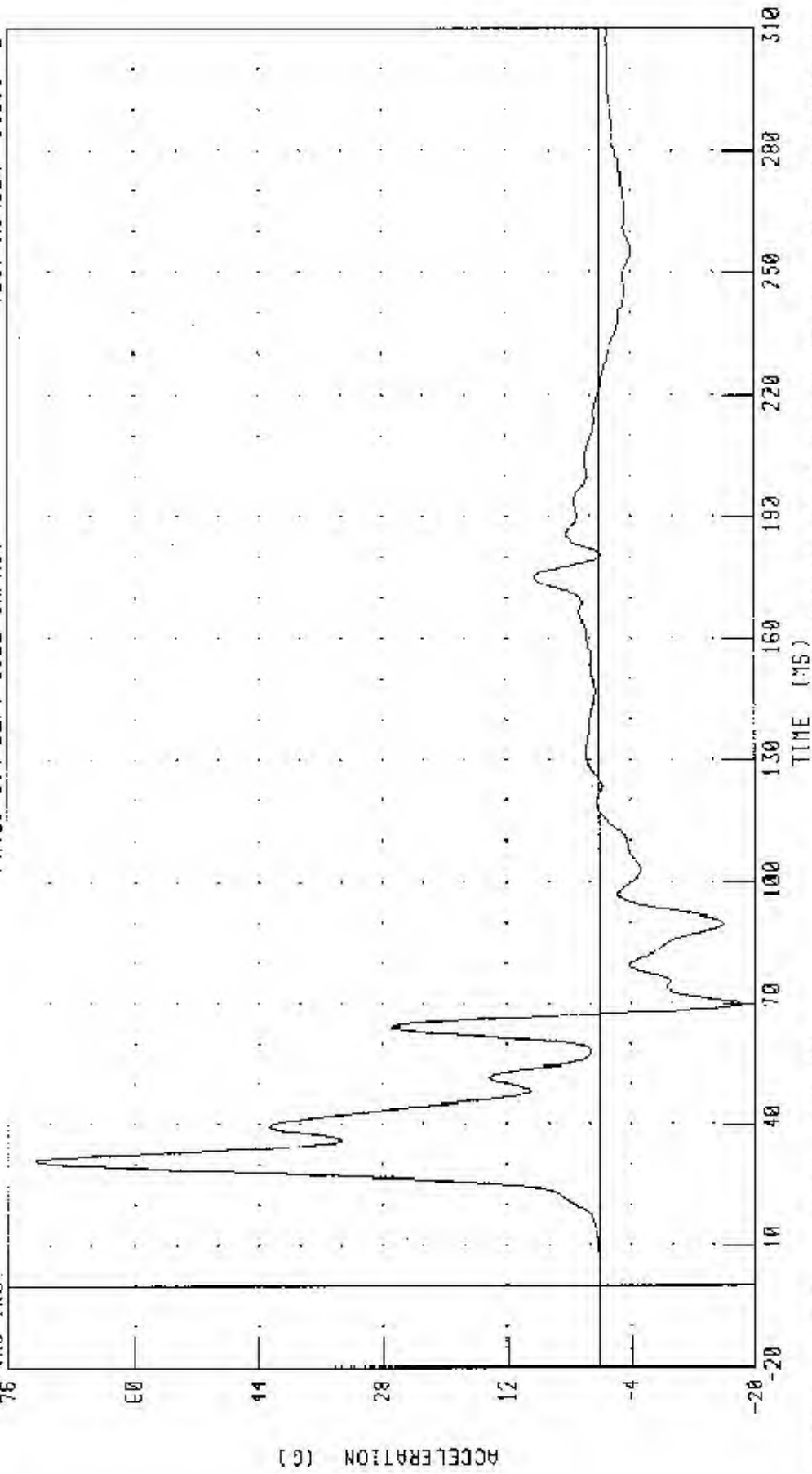
55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 MAZDA 6

DRIVER LOWER RIB Y-AXIS ACCELERATION

TRC INC.

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030317-2



CHANNEL: LLYSG1

FILTER: FIR 100

PEAK DATA: 72.46 G @ 31.25 MS, -18.56 G @ 70.00 MS

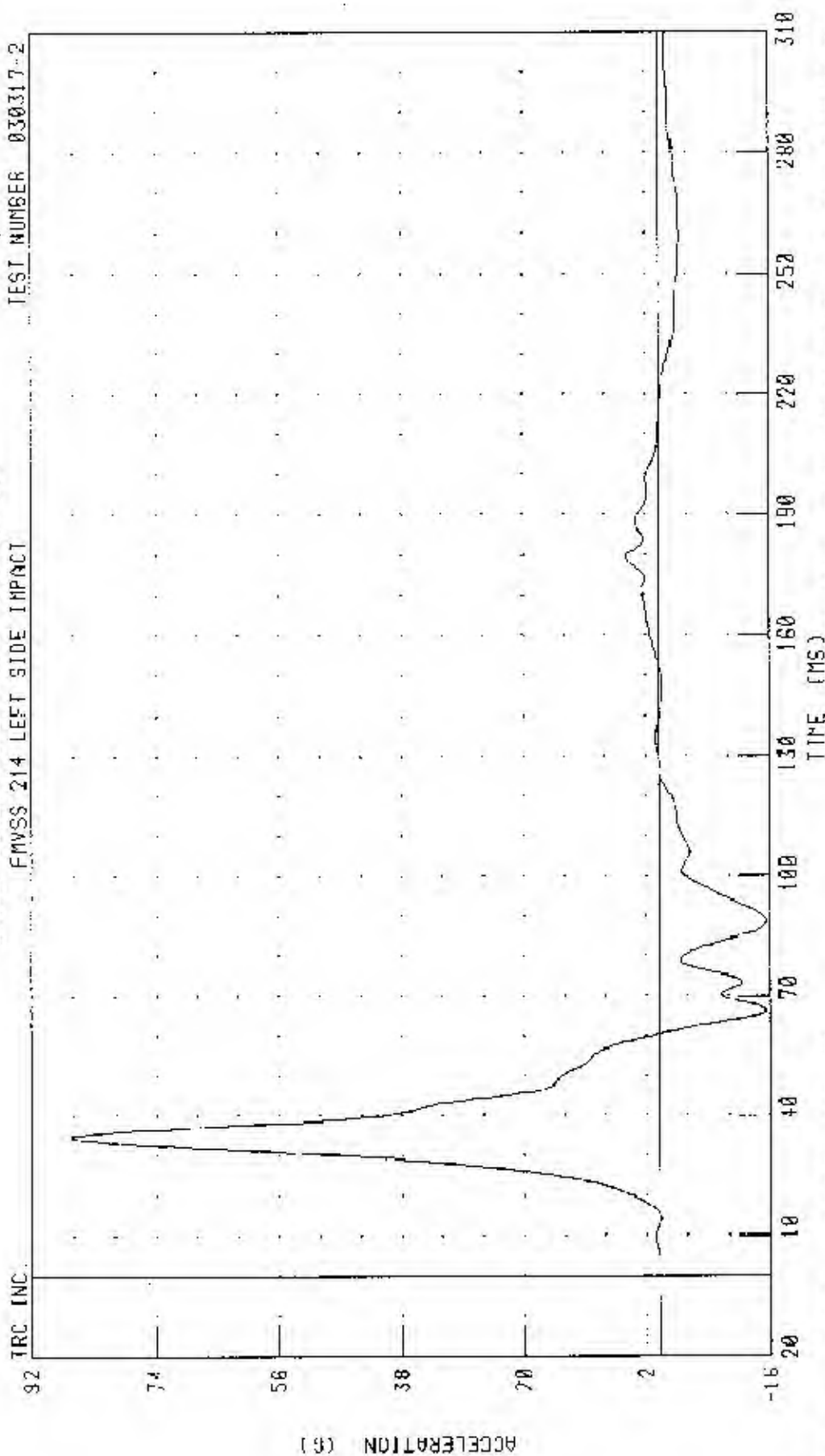


55/20 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 HAZDA 6

DRIVER LOWER SPINE Y-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER 030317-2

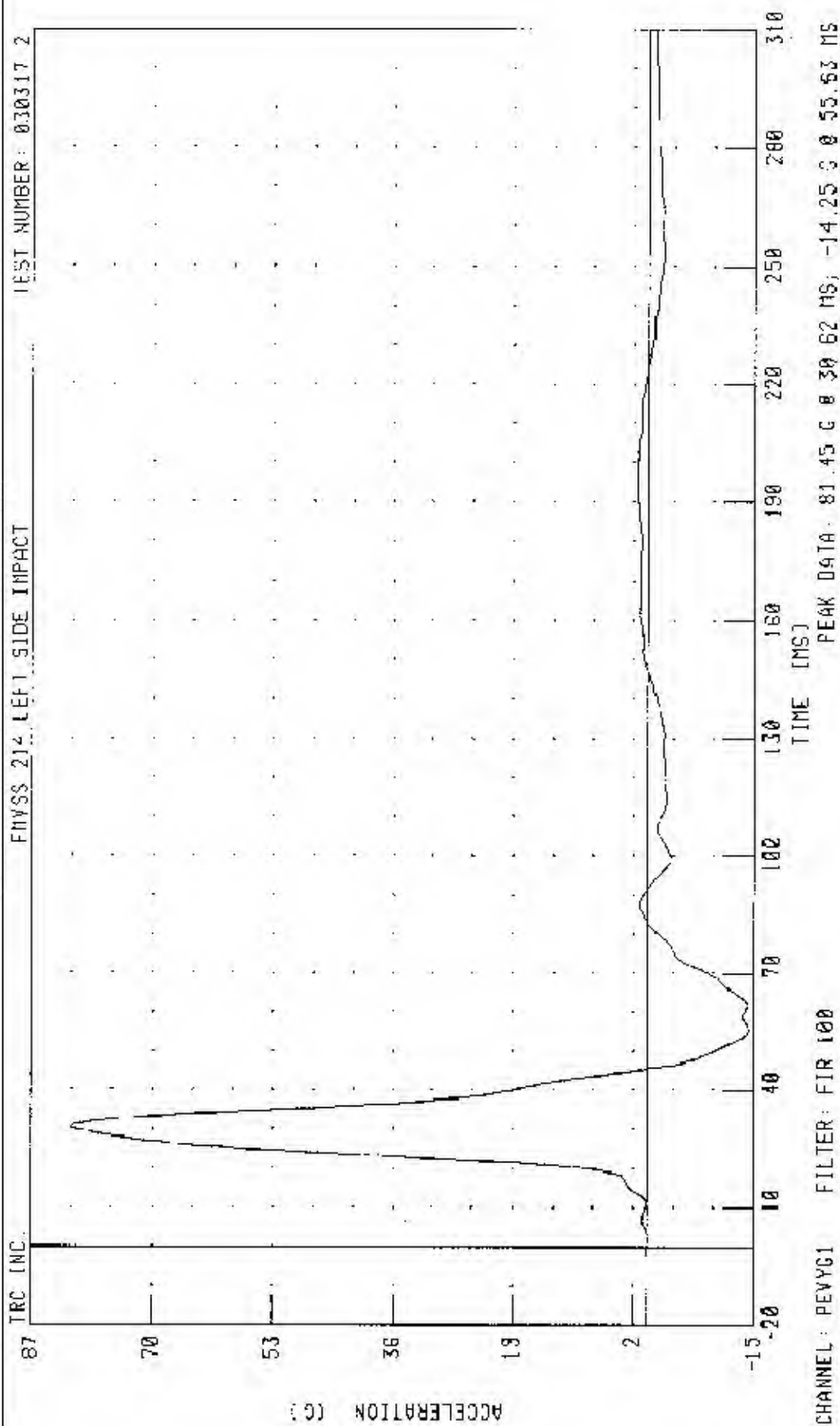


CHANNEL: TL2Y01 FILTER: FIR 100

PEAK DATA 88.45 G @ 35.00 MS; -15.41 G @ 30.75 MS

55/28 MPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 MAZDA 6

DRIVER PELVIS Y AXIS ACCELERATION



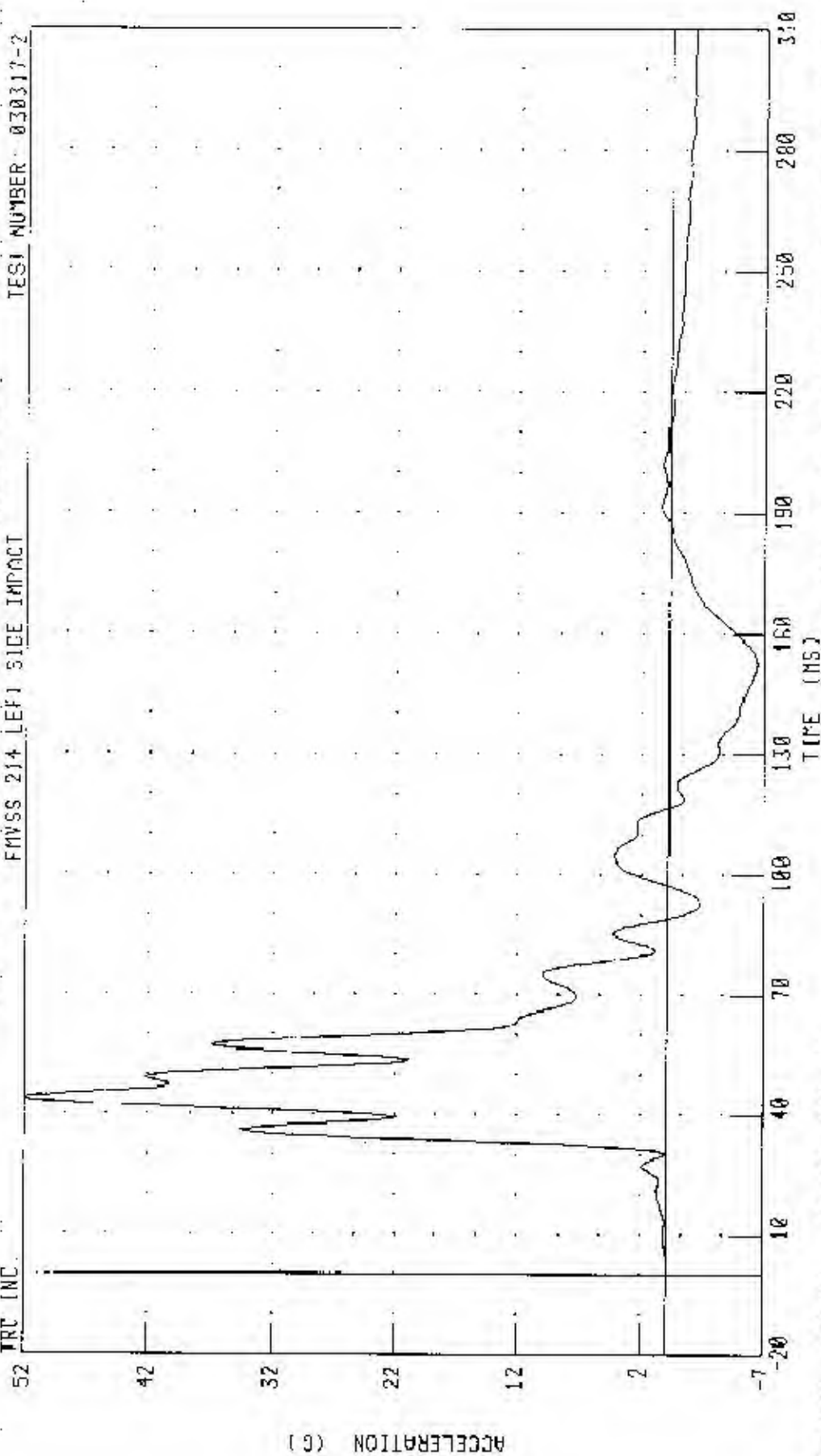
55/20 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 MAZDA 6

LEFT REAR PASSENGER UPPER RIB Y-AXIS ACCELERATION

TRC INC

FMVSS 214 LEFT SIDE IMPACT

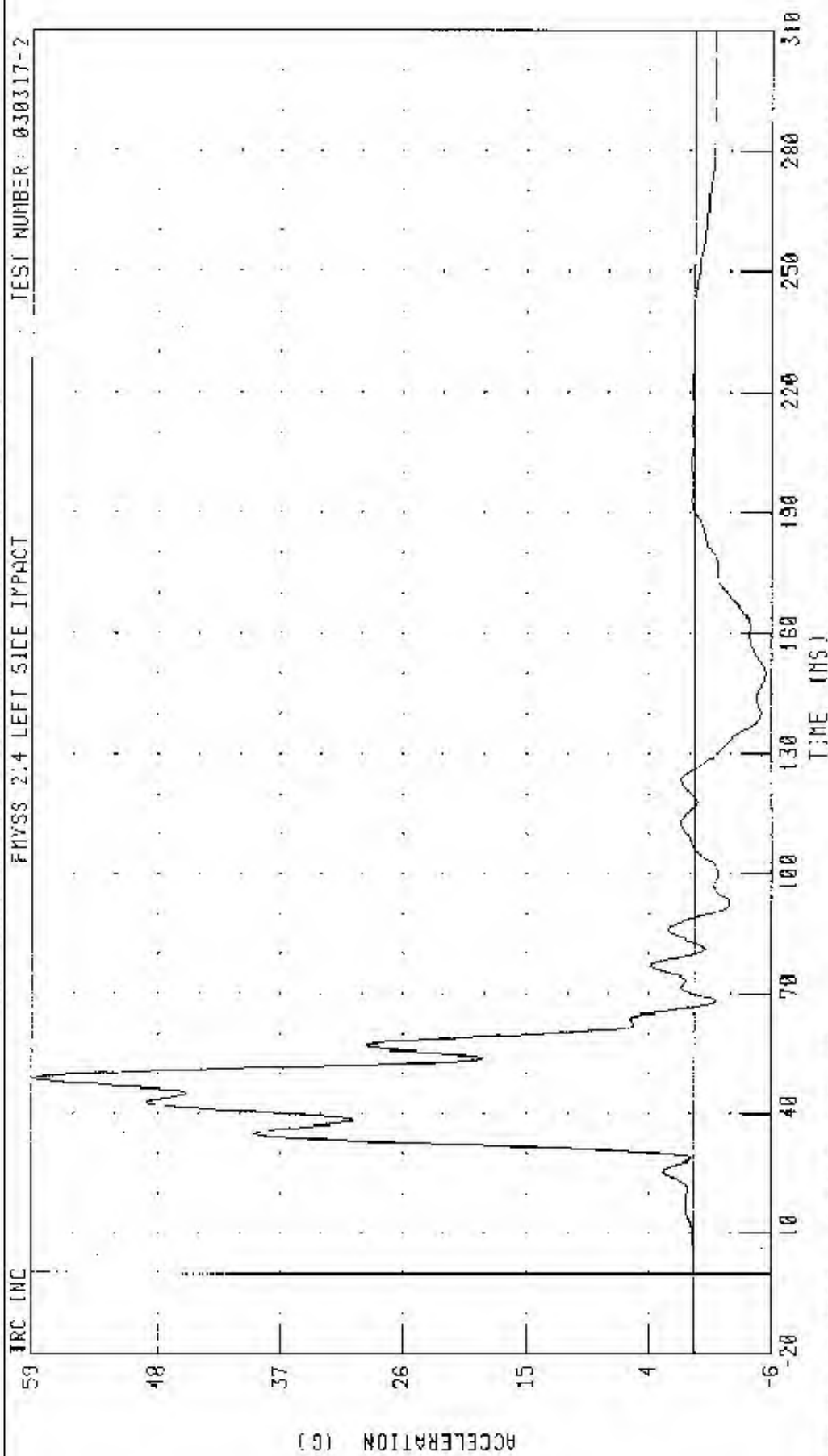
TEST NUMBER 030317-2



CHANNEL LURYG4 FILTER FIR 100

PEAK DATA: 52.40 G @ 43.75 MS, -7.18 G @ 152.50 MS

55/23 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2013S MAZDA 6  
LEFT REAR PASSENGER LOWER RIB Y-AXIS ACCELERATION



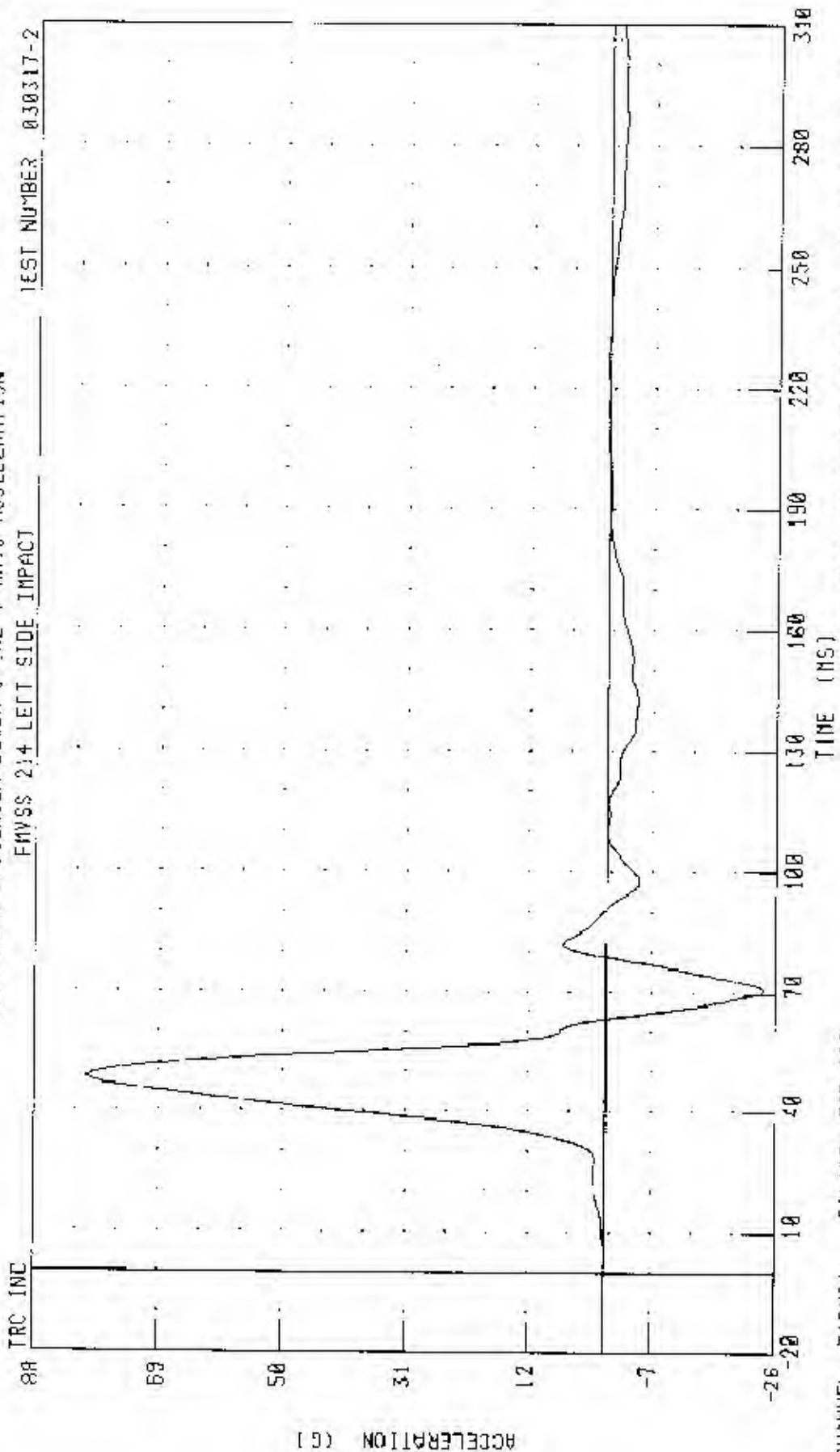
CHANNEL: ILRYG4 FILTER: FIR 100

PEAK DATA: 59.06 G @ 48.75 MS, -6.31 G @ 150.00 MS



55/23 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 MAZDA 6

LEFT REAR PASSENGER LOWER SPINE Y-AXIS ACCELERATION



TEST NUMBER 030317-2

FMVSS 214 LEFT SIDE IMPACT

CHANNEL T12YG4 FILTER FIR 100

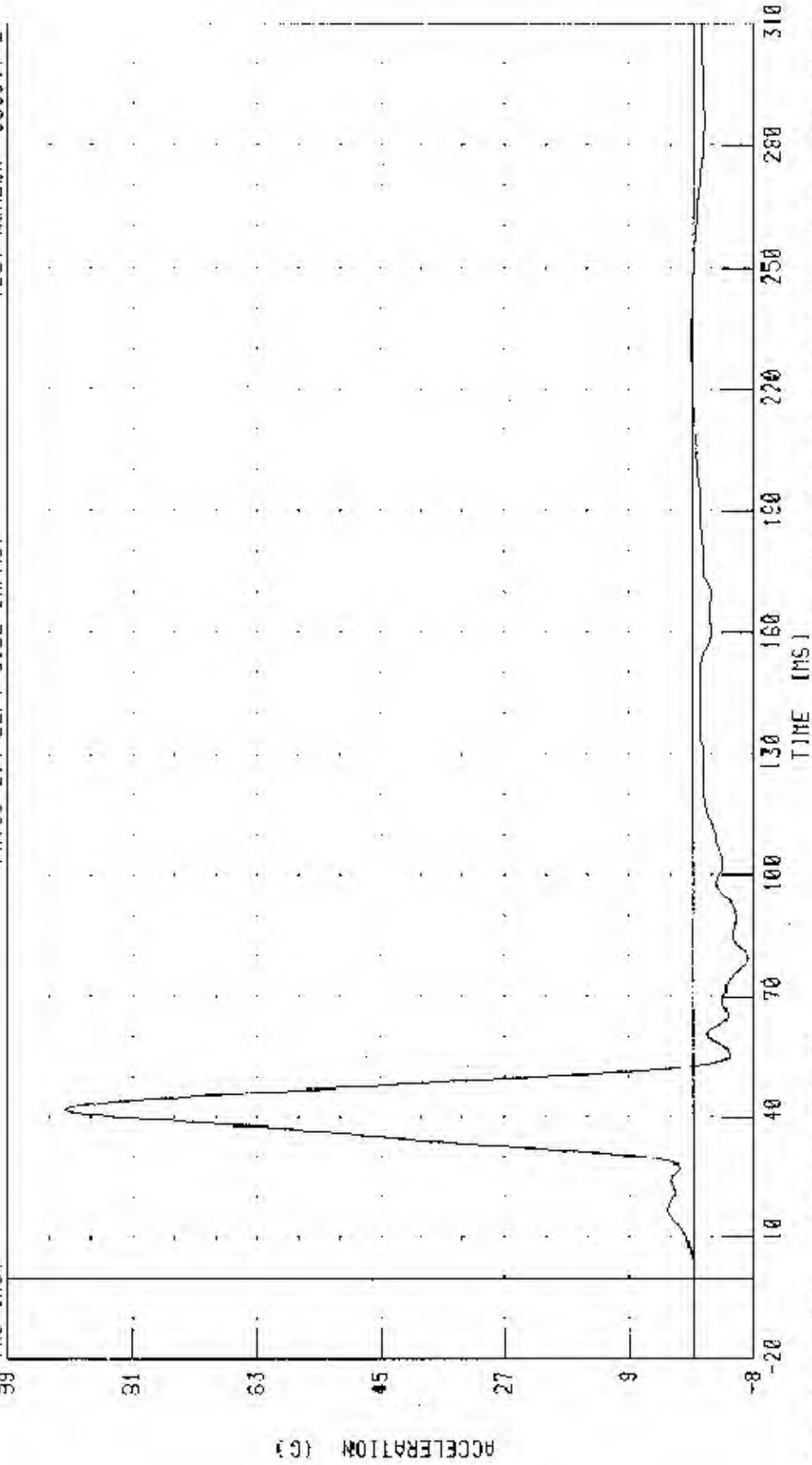
PEAK DATA 80.21 G @ 48.75 MS, -24.00 G @ 70.63 MS

55/28 MPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 MAZDA B  
LEFT REAR PASSENGER PELVIS Y-AXIS ACCELERATION

TEST NUMBER: 030317-2

FMVSS 214 LEFT SIDE IMPACT

TRC INC.

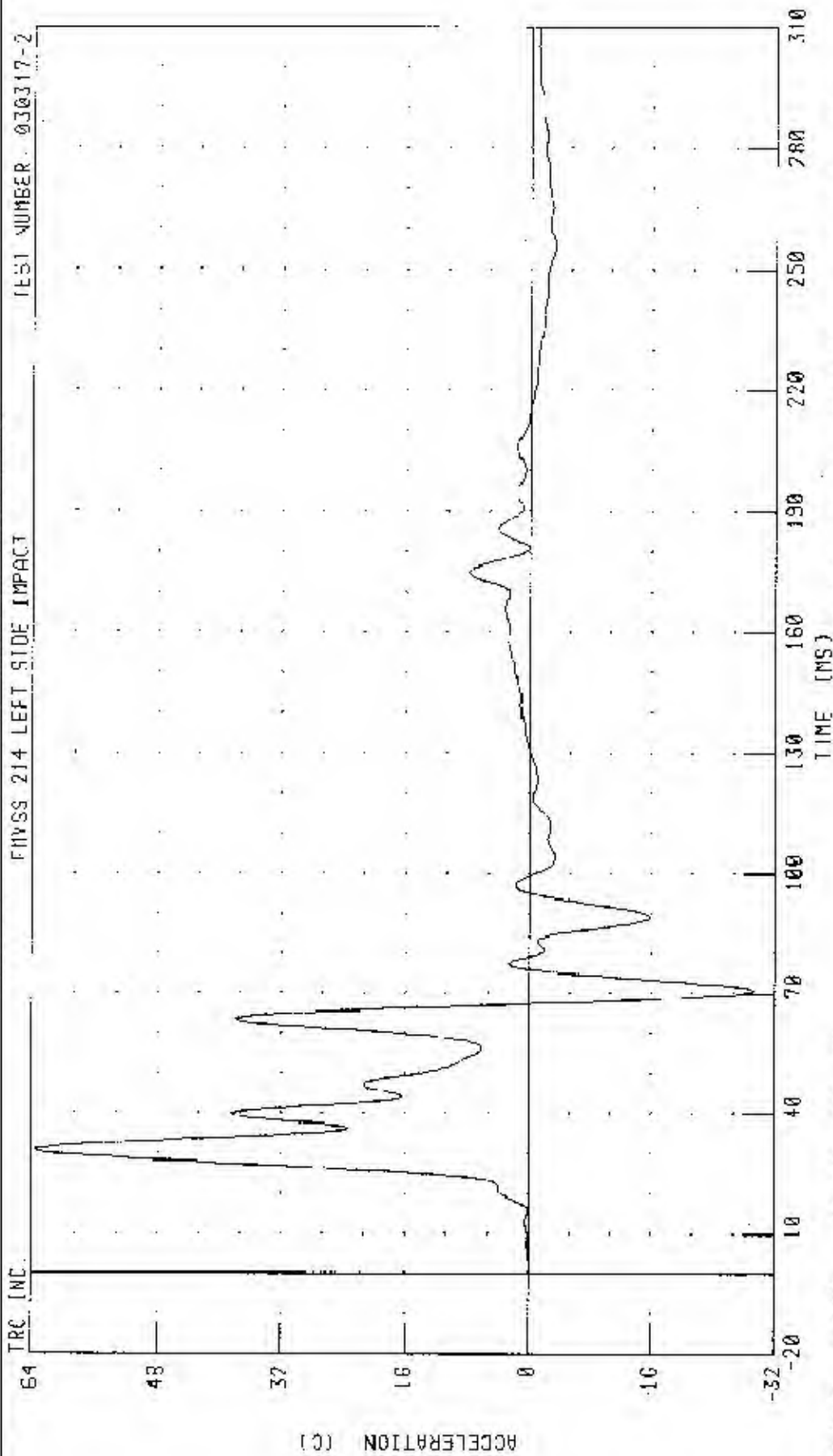


CHANNEL PEVYG4 FILTER FIR100

PEAK DATA 90.96 G @ 41.87 MS; B.01 G @ 79.38 MS

Driver and Passenger Dummy Instrumentation Plots  
Acceleration Data - FIR Filtered - Redundant

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 MAZDA 3  
 DRIVER UPPER 313 Y-AXIS REDUNDANT ACCELERATION



CHANNEL LURVR1 FILTER: FIR 100

PEAK DATA: 51.25 MS; -29.18 G @ 70.63 MS



55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 MAZDA 6

DRIVER LOWER RIB Y-AXIS REDUNDANT ACCELERATION

TEST NUMBER: 030317-2

FMVSS 214 LEFT SIDE IMPACT

TRC INC.

80

64

48

32

16

0

-16

-32

ACCELERATION (G)

TIME (MS)

310

280

250

220

190

160

130

100

70

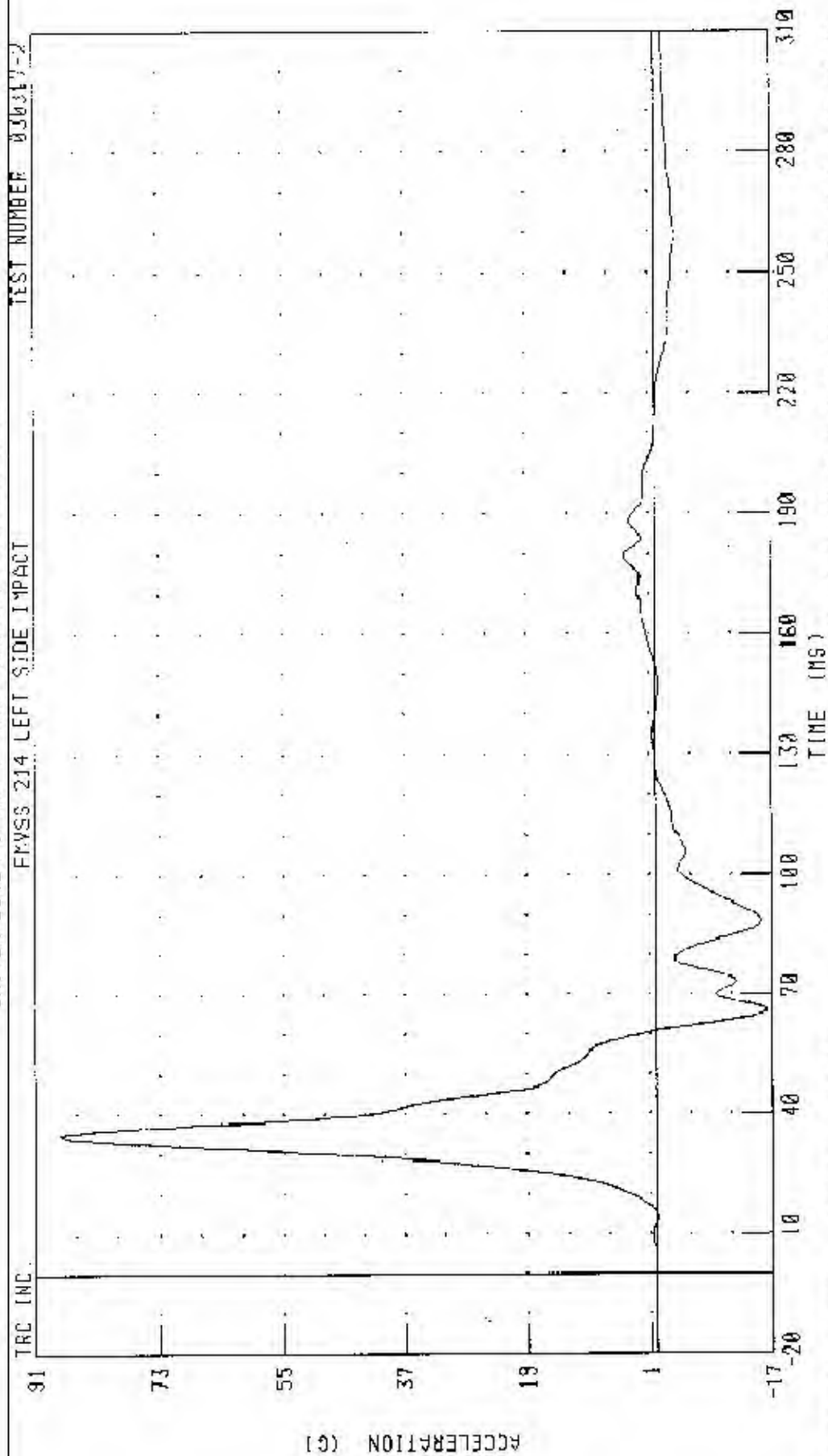
40

10

PEAK DATA: 73.71 G @ 31.25 MS; -20.14 G @ 70.00 MS

CHANNEL: LLRYR1 FILTER: FIR 100

55/28 KPA 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 MAZDA 6  
 DRIVER LOWER SPINE Y AXIS REDUNDANT ACCELERATION



CHANNEL: T12YR1 FILTER: FIR 100

PEAK DATA: 87.34 G @ 35.00 MS, -16.16 G @ 65.63 MS

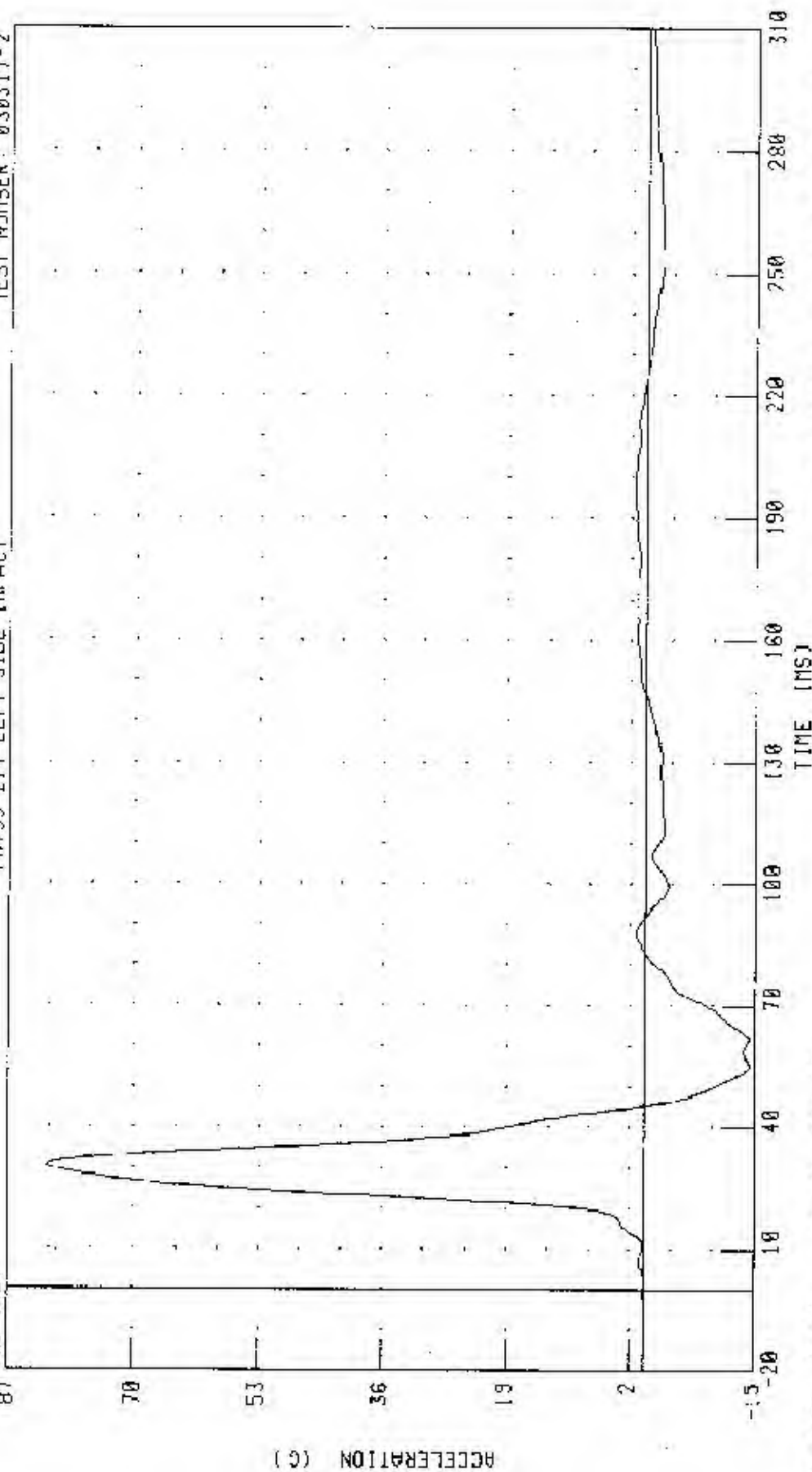
55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 MAZDA R

DRIVER PELVIS Y-AXIS REDUNDANT ACCELERATION

TRC INC.

FNVS 214 LEFT SIDE IMPACT

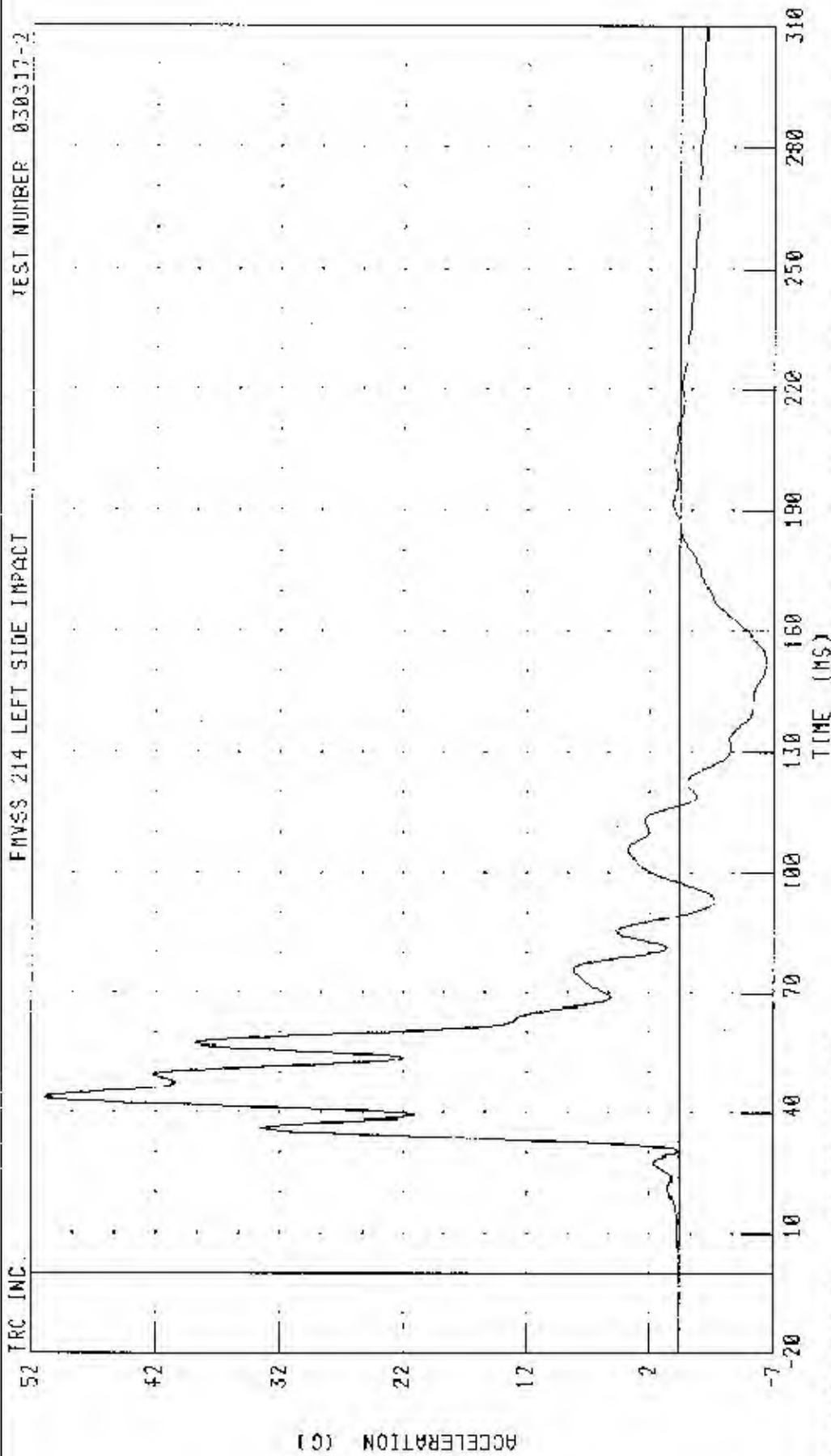
TEST NUMBER: 030317-2



CHANNEL: PEVYR1 FILTER: FIR 100

PEAK DATA 81.75 G @ 30.62 MS, -14.27 G @ 55.63 MS

55/28 MPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 MAZDA 6  
LEFT REAR PASSENGER UPPER RIB Y AXIS REDUNDANT ACCELERATION



CHANNEL: LURYR4 FILTER: FIR 100

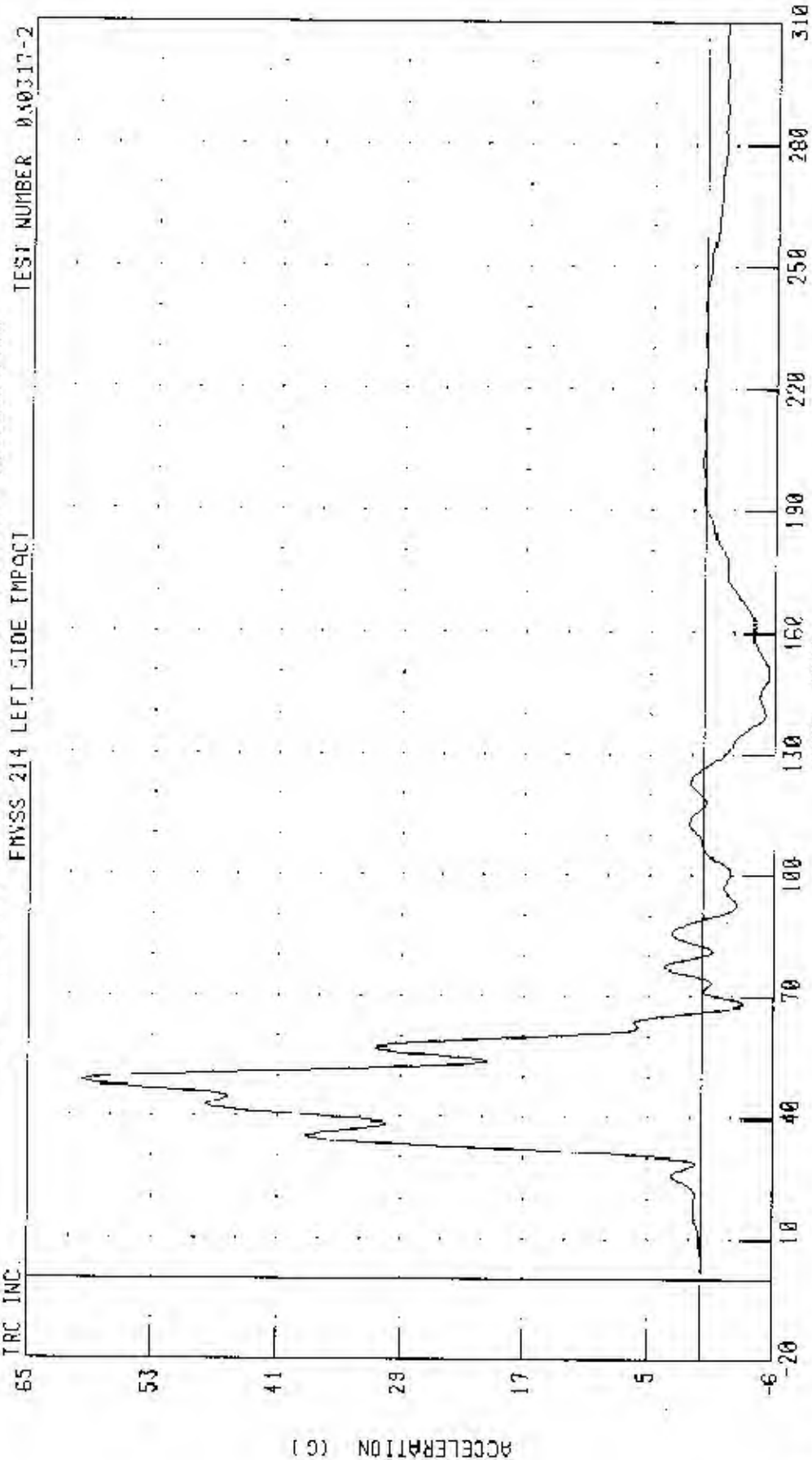
PEAK DATA 51.28 G @ 43.75 MS; -6.97 G @ 152.50 MS



55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER: INTO LEFT SIDE OF 2003 MAZDA 6  
LEFT REAR PASSENGER LOWER RIB Y-AXIS REDUNDANT ACCELERATION

TRC INC.

FMVSS 214 LEFT SIDE IMPACT TEST NUMBER 030317-2



CHANNEL: LLRYR4 FILTER: FTR 100

TIME (MS)

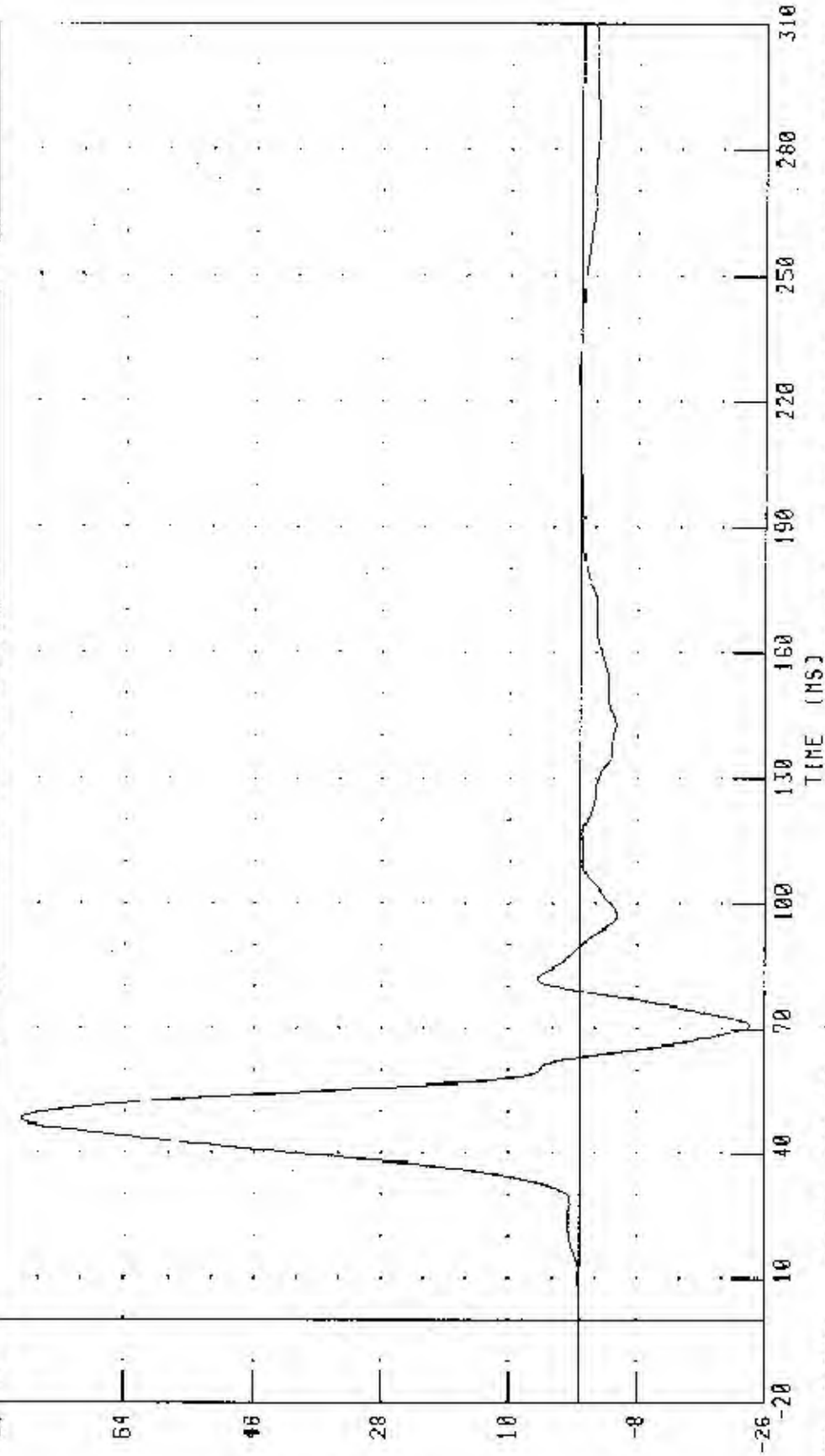
PEAK DATA: 59.99 G @ 18.75 MS, -6.24 G @ 150.00 MS

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING OFFSHORE BARRIER) INIC LEFT SIDF OF 2003 M4204 6  
LEFT REAR PASSENGER LOWER SPINE Y AXIS REDUNDANT ACCELERATION

82 TRC INC.

ENVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030317-2



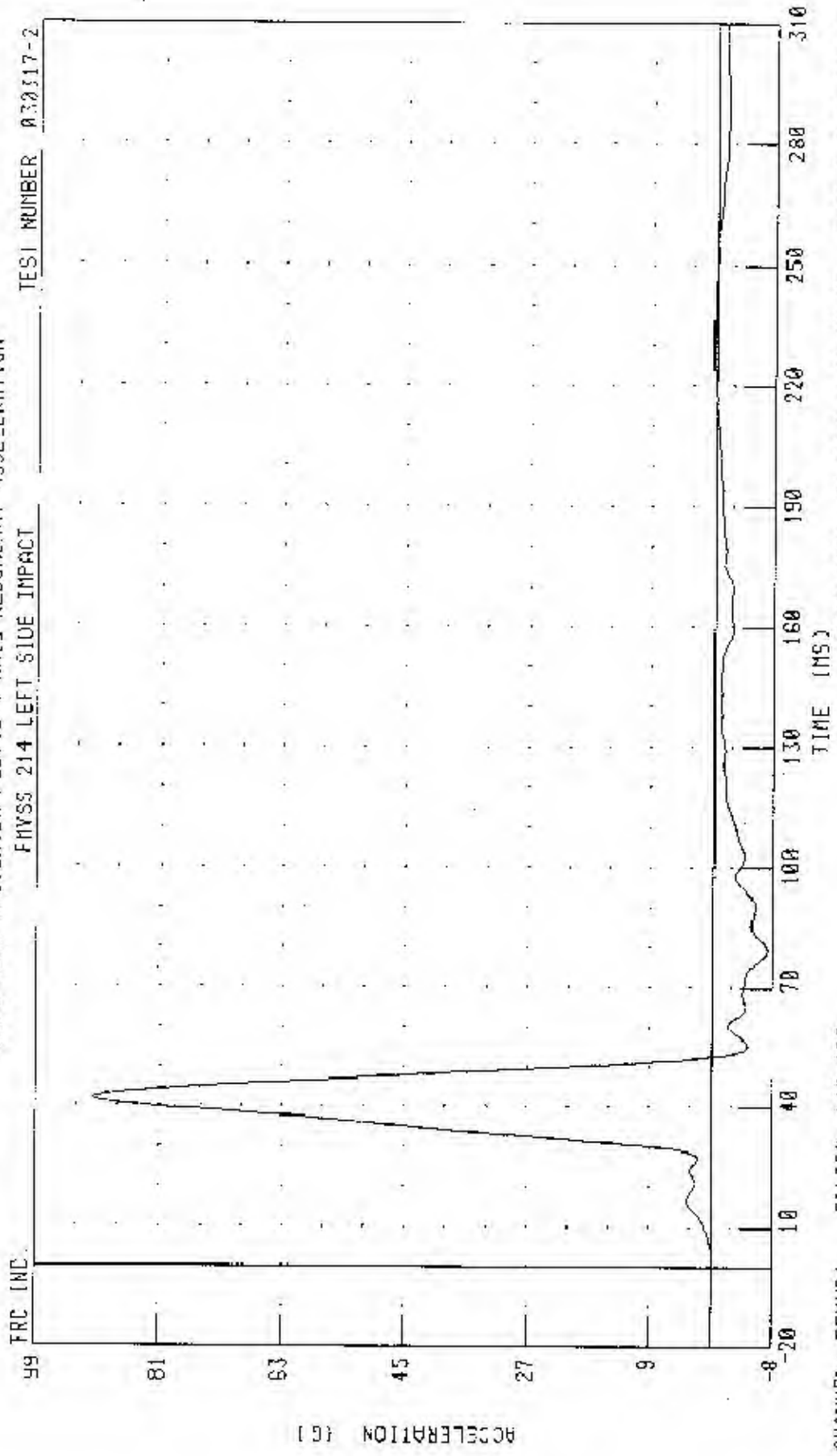
ACCELERATION (G)

CHANNEL: TL2YR4 FILTER: FIR 100

PEAK DATA 70.30 G @ 48.13 MS, -23.83 G @ 70.63 MS

TIME (MS)

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 MAZDA 6  
 LEFT REAR PASSENGER PELVIS Y-AXIS REDUNDANT ACCELERATION



CHANNEL: PEVYR4 FILTER: FIR 100

PEAK DATA: 91.03 G @ 41.87 MS, -7.92 G @ 79.38 MS

Appendix C

**SID Configuration and Performance Verification Data**



Summary  
SID Pre-Test and Post-Test Calibration  
Configured For Left Side Impact

Date: March 5 - 24, 2003 TRC Inc. Test Number: 028C02/C03; 065C05/C06  
Laboratory Technician: Jack Willeke

Test Parameter	Specification	SID 28		SID 65	
		Pre-Test	Post-Test	Pre-Test	Post-Test
SH - Seated Height (mm)	889-909	900	898	899	897
RH - Rib Height (mm)	502-520	504	506	512	511
HP - Hip Pivot Height (mm)	99 ref	99.1	99.1	99.1	99.1
RD - Rib from Back Line (mm)	229-241	236	235	237	236
KH - Knee Pivot from Back Line (mm)	511-526	514	513	513	514
KV - Knee Pivot to Floor (mm)	490-505	497	499	499	497
HW - Hip Width (mm)	356-391	375	374	372	373
Thorax Impacts					
Temperature (°C)	18.9-25.5	21.7	21.7	21.7	21.7
Relative Humidity (%)	10-70	29	46	44	47
Probe Speed (m/s)	4.27-4.33	4.28	4.27	4.28	4.3
Upper Rib (g's)	37-46	39.1	39.2	40.7	40.9
Lower Rib (g's)	37-46	37.3	38.5	39.8	38.6
Lower Spine (g's)	15-22	16.5	17.4	19.4	19.2
Pelvis Impacts					
Temperature (°C)	18.9-25.5	21.7	21.7	21.7	21.7
Relative Humidity (%)	10-70	29	46	44	47
Probe Speed (m/s)	4.27-4.33	4.28	4.28	4.28	4.3
Pelvis (g's)	40-60	48.4	45.5	52.1	56.3

Calibration Test Results

Pre-Test

SID: 028

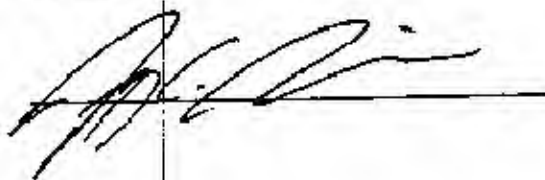
Configured for Left Side Impact

External Dimensions:	The dummy passed all external dimension requirements.
Lateral Head Drop Test:	The head passed all lateral drop test requirements.
Lateral Neck Test:	The neck passed all impact test requirements.
Lateral Thorax Impact Test:	The thorax passed all impact test requirements.
Thoracic Shock Absorber Test:	The thorax passed all shock absorber requirements (tested on February 3, 2003, for a previous calibration series).
Lumbar Flexion Test:	The dummy met the lumbar flexion test requirements.
Abdominal Compression Test:	The abdomen met the compression test requirements.
Pelvis Impact Test:	The lateral pelvis passed all impact test requirements.

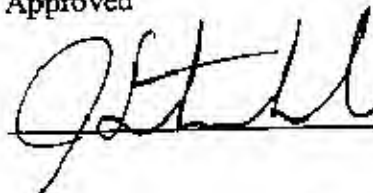
**Transportation Research Center Inc.**  
**572F SID Dummy**  
**External Dimensions**  
**Serial No. 028 Calibration No. 02**

Test Parameter	Dimension	Specification	Results	Pass
Seated Height	SH	889.0 - 909.3 mm	900 mm	Yes
Rib Height	RH	501.7 - 520.7 mm	504 mm	Yes
Hip Pivot Height	HP	99.1 REF mm	99.1 mm	
Rib From Backline	RD	228.6 - 241.3 mm	236 mm	Yes
Knee Pivot From Backline	KH	510.5 - 525.8 mm	514 mm	Yes
Knee Pivot From Floor	KV	490.2 - 505.5 mm	497 mm	Yes
Hip Width	HW	355.6 - 391.2 mm	375 mm	Yes
Top Rib Width From CVL	RW-1	165.1 - 180.3 mm	172 mm	Yes
Bottom Rib Width From CVL	RW-2	165.1 - 180.3 mm	172 mm	Yes
Difference Between Top & Bottom Rib Width from CVL		<= 2.5 mm	0.0 mm	Yes

Technician



Approved



**TRE**

TRANSPORTATION RESEARCH CENTER INC.

LATERAL HEAD DROP TEST

HYBRIDIII SID DUMMY

05-MAR-03

LEFT SIDE CONFIGURATION

TRC INC.

TEST NO. HDL02802

H3/SID SN028 HEAD DROP CAL02

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE	18.9 - 25.6 deg. C	21.67 deg. C
RELATIVE HUMIDITY	10 - 70 %	33.00 %
PEAK RESULTANT ACCELERATION	120 - 150 G	145.12 G
PEAK LONGITUDINAL ACCELERATION	15 G MAX	-11.14 G
IS ACCELERATION CURVE UNIMODAL?	YES	YES

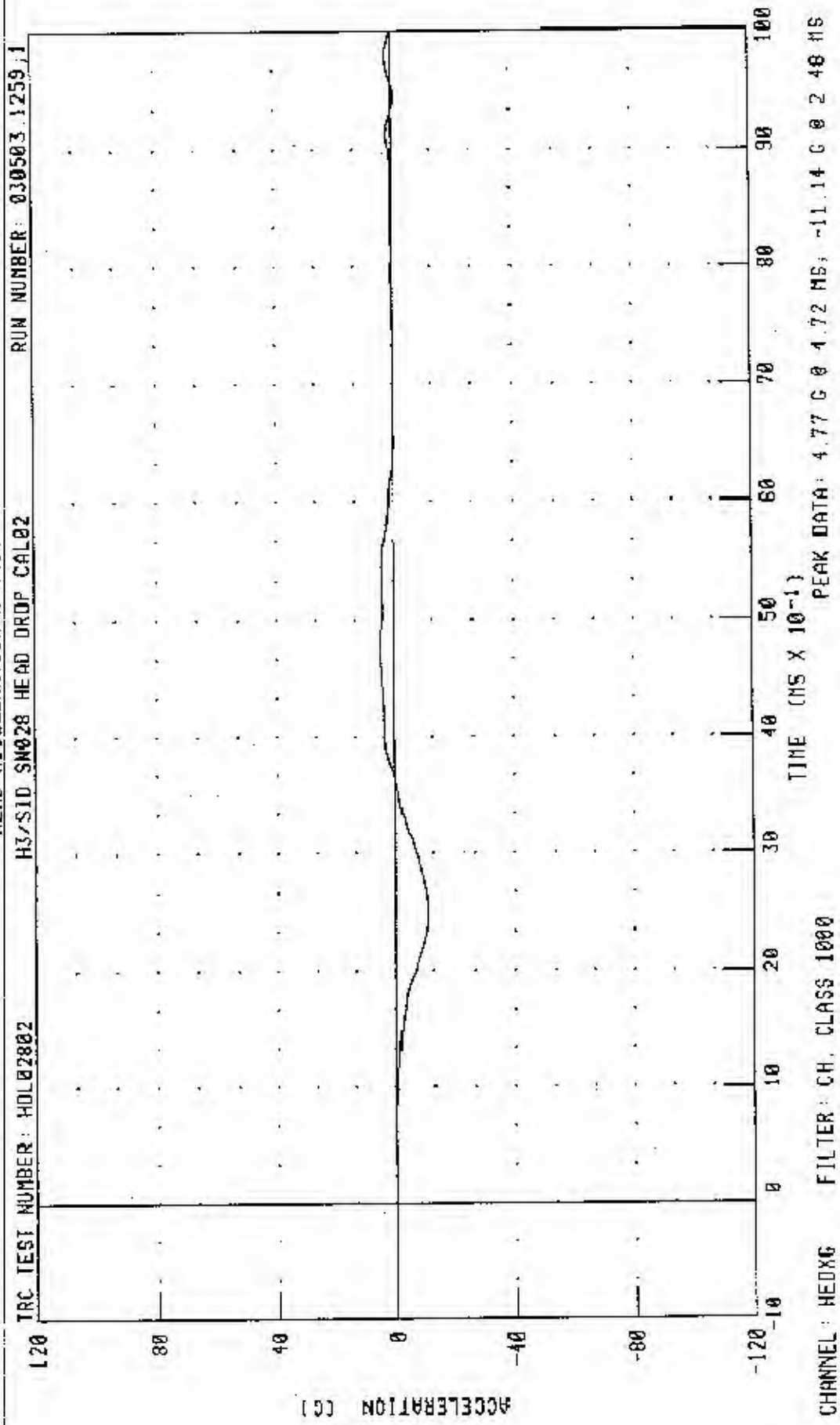
TEST MEETS SPECIFICATIONS

TECHNICIAN 

RUN NUMBER: 030503.1259;1



810510 DUMMY CALIBRATION -- 35 DEGREE LEFT LATERAL HEAD DROP  
 HEAD ACCELERATION X AXIS



# B10SID DUNNY CALIBRATION -- 35 DEGREE LEFT LATERAL HEAD DROP

HEAD ACCELERATION Y AXIS

RUN NUMBER: 030503 1306;2

H3/SID SN028 HEAD DROP CAL02

TRC TEST NUMBER: HDL02802

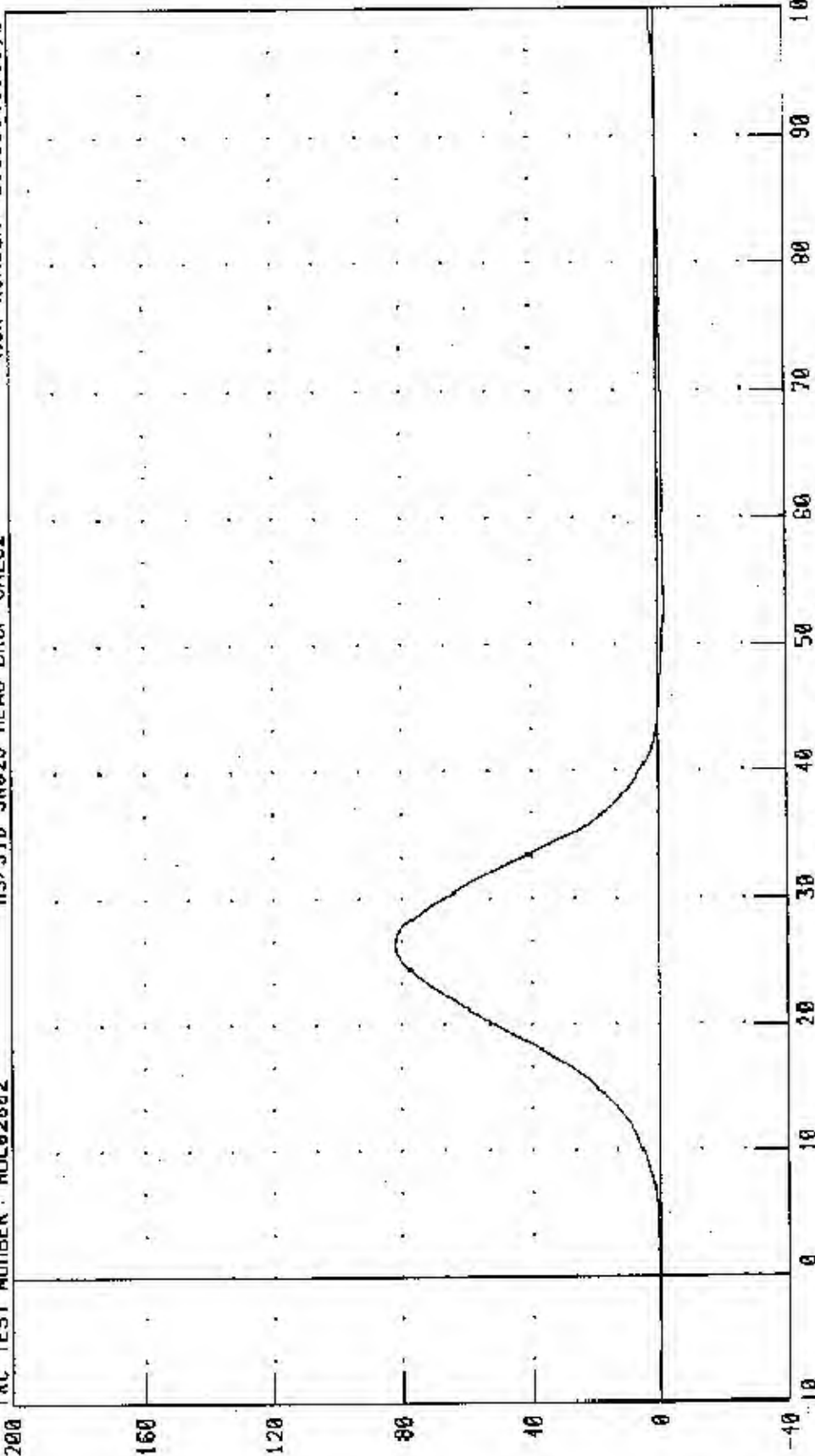
200

160

120

ACCELERATION (G)

C-7



TIME (MS X 10<sup>-1</sup>)

CHANNEL: HEDYC

FILTER: CH. CLASS 1000

030317-2

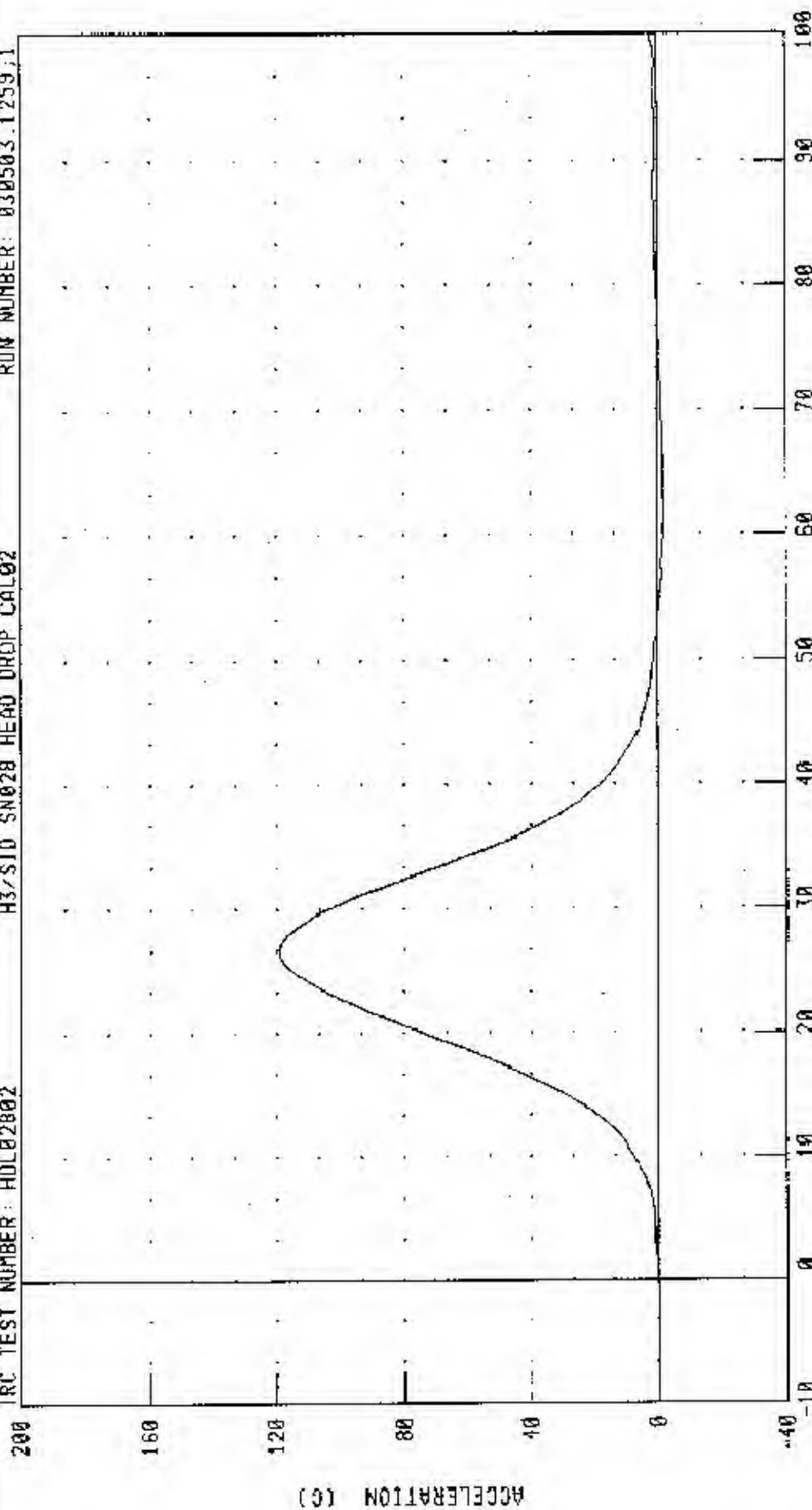
# B10S10 DUMMY CALIBRATION -- 35 DEGREE LEFT LATERAL HEAD DROP

HEAD ACCELERATION Z AXIS

IRC TEST NUMBER: HDL02802

H3/S10 SN028 HEAD DROP CAL02

RUN NUMBER: 030503.1259.1



CHANNEL: HE02C

FILTER: CH CLASS 1000

PEAK DATA: 119 01 G @ 2.64 MS; -1.96 G @ 6.16 MS

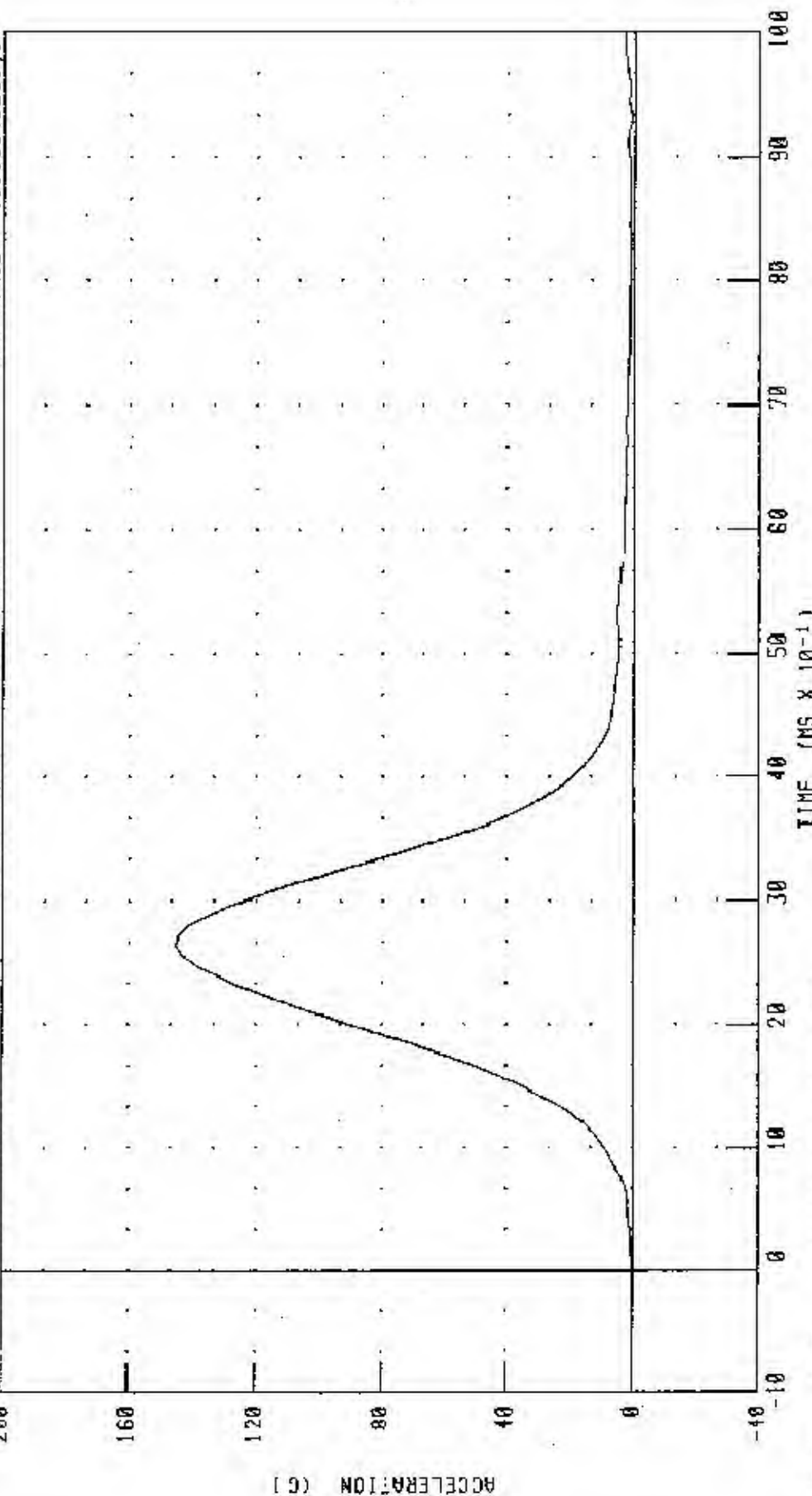
# 810S10 DUMMY CALIBRATION -- 35 DEGREE LEFT LATERAL HEAD DROP

HEAD RESULTANT ACCELERATION

TRC TEST NUMBER: HDL02802

H3/S10 SN028 HEAD DROP CAL02

RUN NUMBER: 030503.1259.1



CHANNEL: HEDRC

FILTER: CH. CLASS 1000

PEAK DATA: 145.12 G @ 2.64 MS

0.15 G @ -0.96 MS



## TRANSPORTATION RESEARCH CENTER INC.

## LATERAL NECK TEST

HYBRIDIII SID DUMMY

05-MAR-03

LEFT SIDE CONFIGURATION

TRC INC.

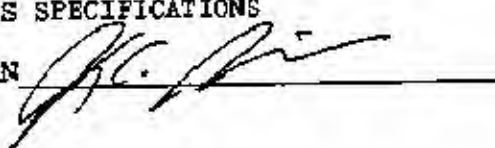
TEST NO. NFL02802A

H3/SID SN028 NECK LEFT CAL02

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE	20.6 - 22.2 deg. C	21.67 deg. C
RELATIVE HUMIDITY	10 - 70 %	30.00 %
IMPACT VELOCITY	6.89 - 7.13 M/S	7.06 M/S
INTEGRATED VELOCITY	10 MS   1.96 - 2.55 M/S	2.42 M/S
	20 MS   4.12 - 5.10 M/S	4.73 M/S
	30 MS   5.73 - 7.01 M/S	6.69 M/S
	40 - 70 MS   6.27 - 7.64 M/S	7.18- 7.28 M/S
MAXIMUM MIDSAGGITAL PLANE ROTATION	66 - 82 deg.	70.80 deg.
ROTATION ANGLE DECAY TIME FROM PEAK TO ZERO	58 - 67 MS	58.40 MS
MAXIMUM MOMENT ABOUT OCCIPITAL CONDYLE	73 - 88 NM	83.25 NM
POSITIVE MOMENT DECAY TIME FROM PEAK TO ZERO	49 - 64 MS	51.52 MS
TIME OF MAXIMUM ROTATION AFTER MAXIMUM MOMENT	2 - 16 MS	8.32 MS

TEST MEETS SPECIFICATIONS

TECHNICIAN



RUN NUMBER: 030503.1337;1

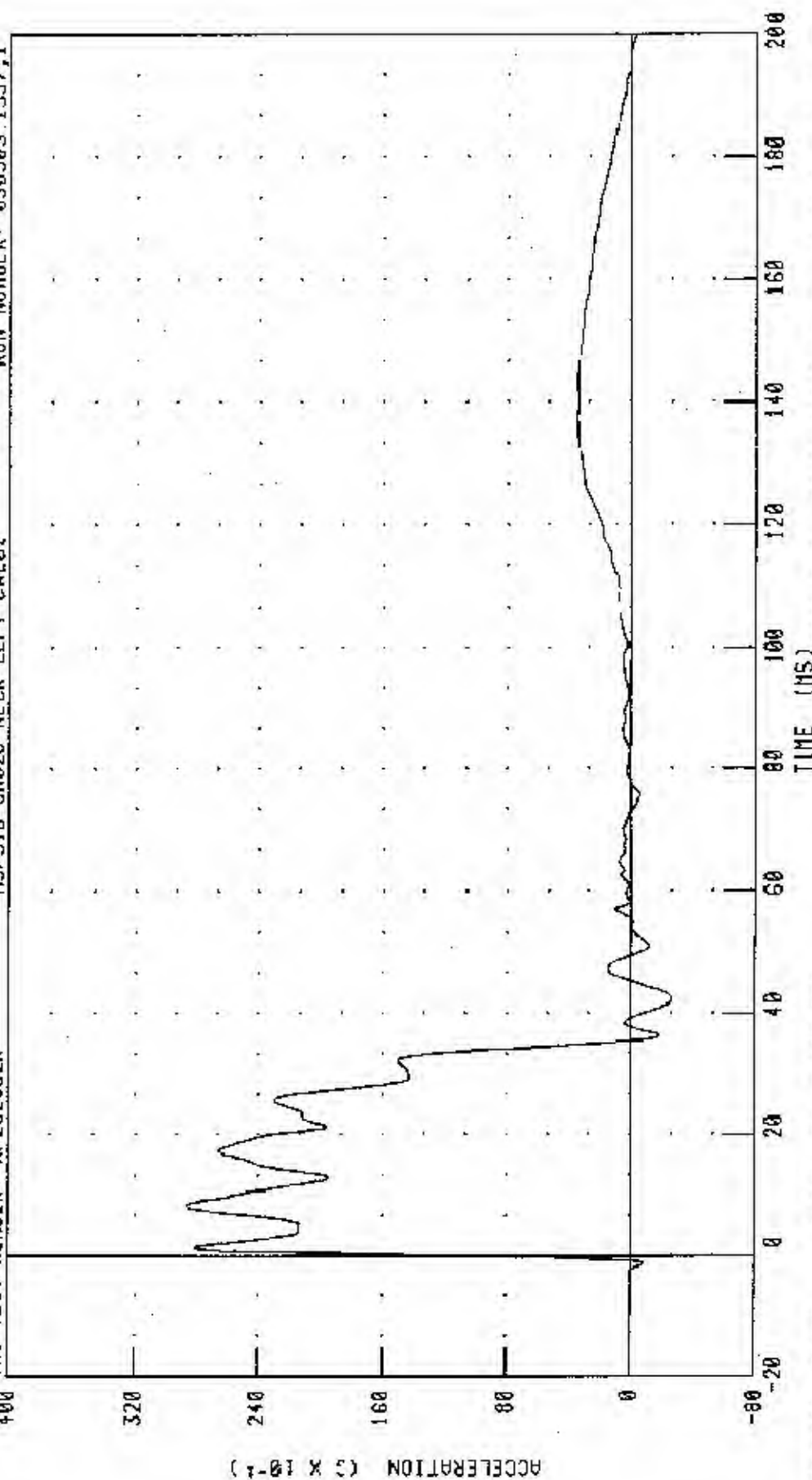
# H3/S10 DUMMY CALIBRATION -- LEFT LATERAL NECK TEST

PENDULUM DECELERATION

TRC TEST NUMBER: NFL02802A

H3/S10 SN028 NECK LEFT CAL02

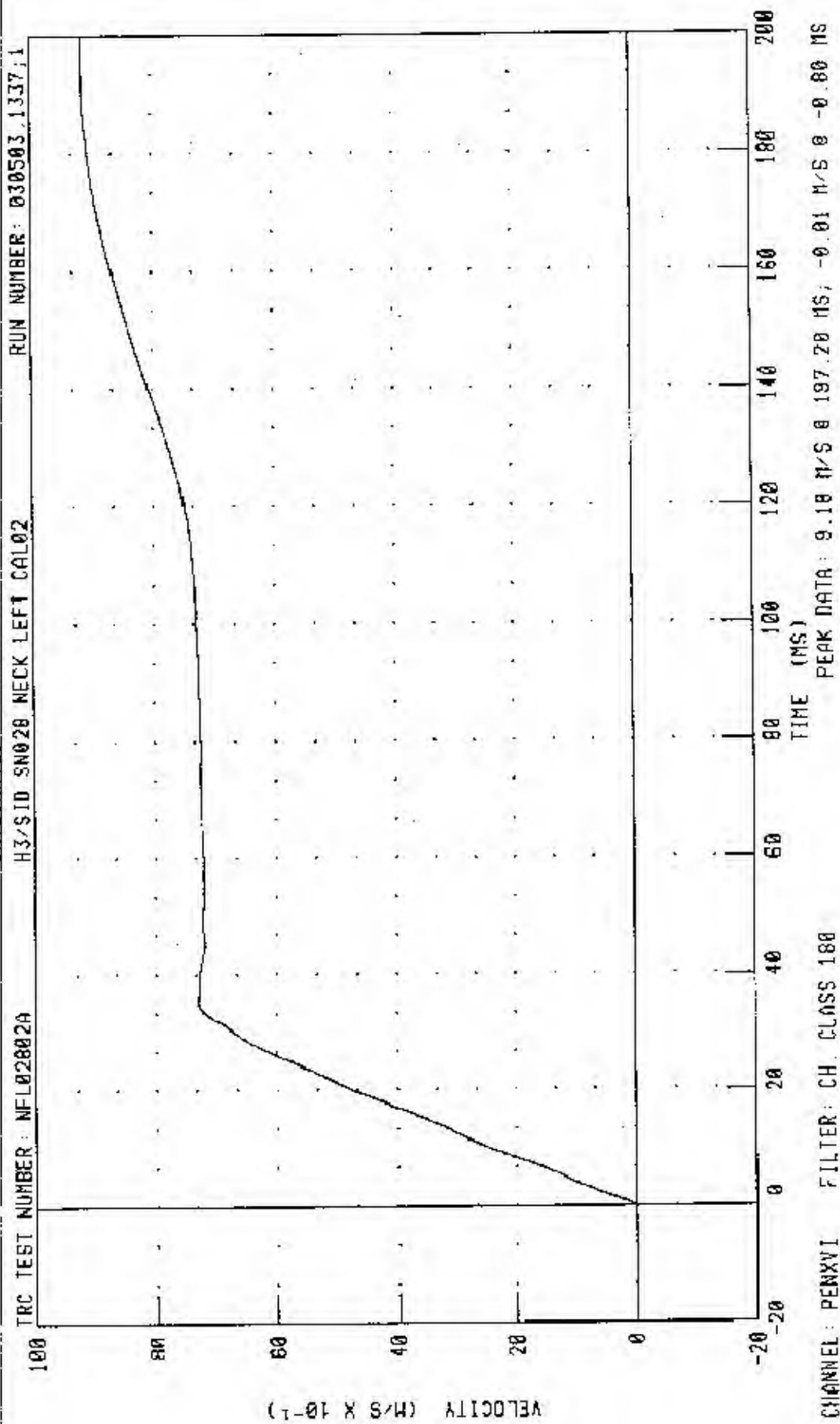
RUN NUMBER: 030503.1337;1



CHANNEL: PENXC FILTER: CH. CLASS 180

PEAK DATA 28.64 G @ 8.48 MS; -2.65 G @ 42.32 MS

# H3/S10 DUMMY CALIBRATION -- LEFT LATERAL NECK TEST INTEGRATED PENDULUM VELOCITY



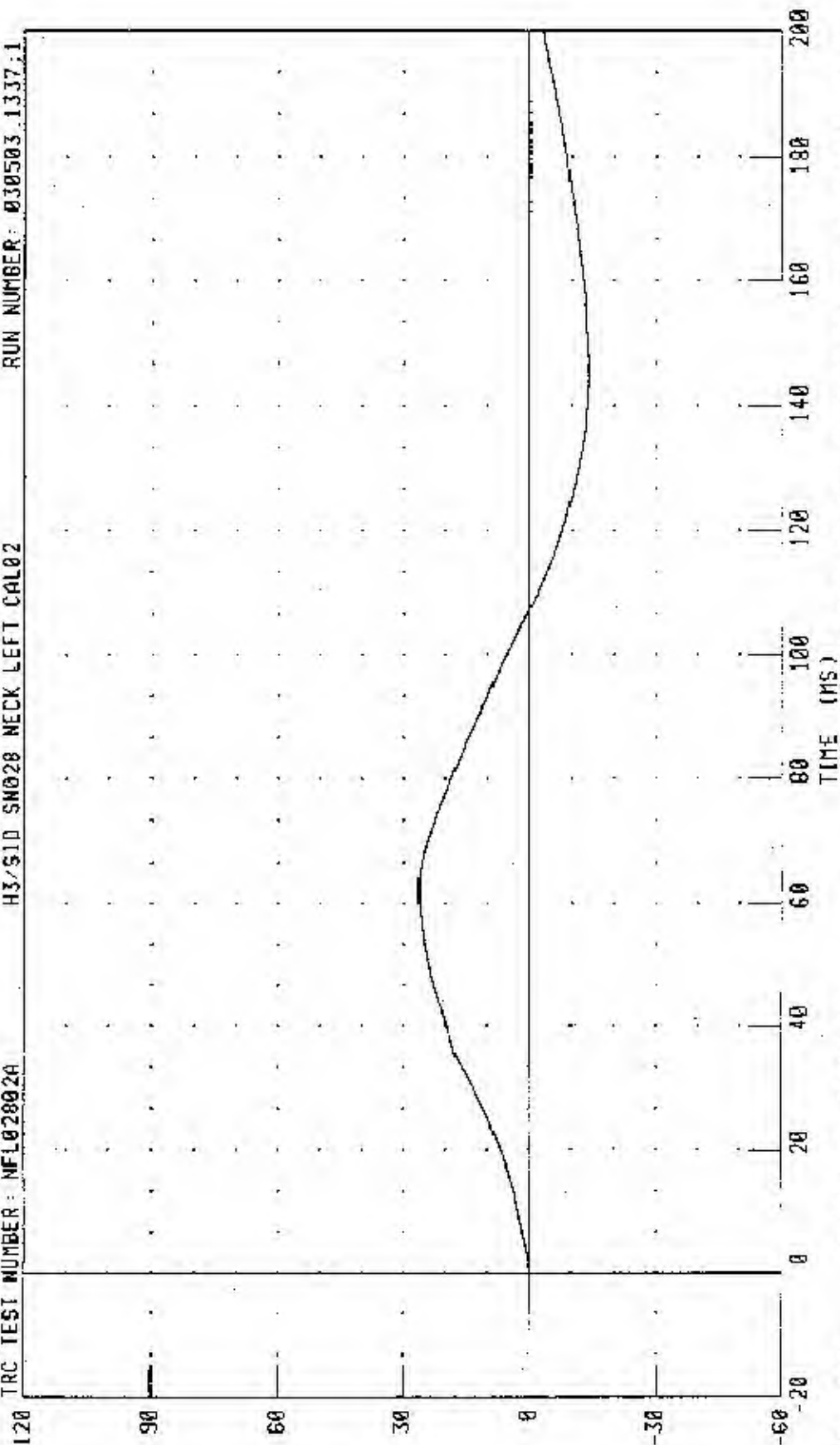
# H3/SID DUMMY CALIBRATION -- LEFT LATERAL NECK TEST

ROTATION ABOUT BASE OF NECK

TRC TEST NUMBER: NFL02802A

H3/SID SN028 NECK LEFT CAL02

RUN NUMBER: 030503.1337.1



ANGLE (°)

TIME (MS)

CHANNEL: BETA

FILTER: CH. CLASS 60

PEAK DATA: 26.34 ± 0.62.48 MS; -14.06 ± 0.145.44 MS



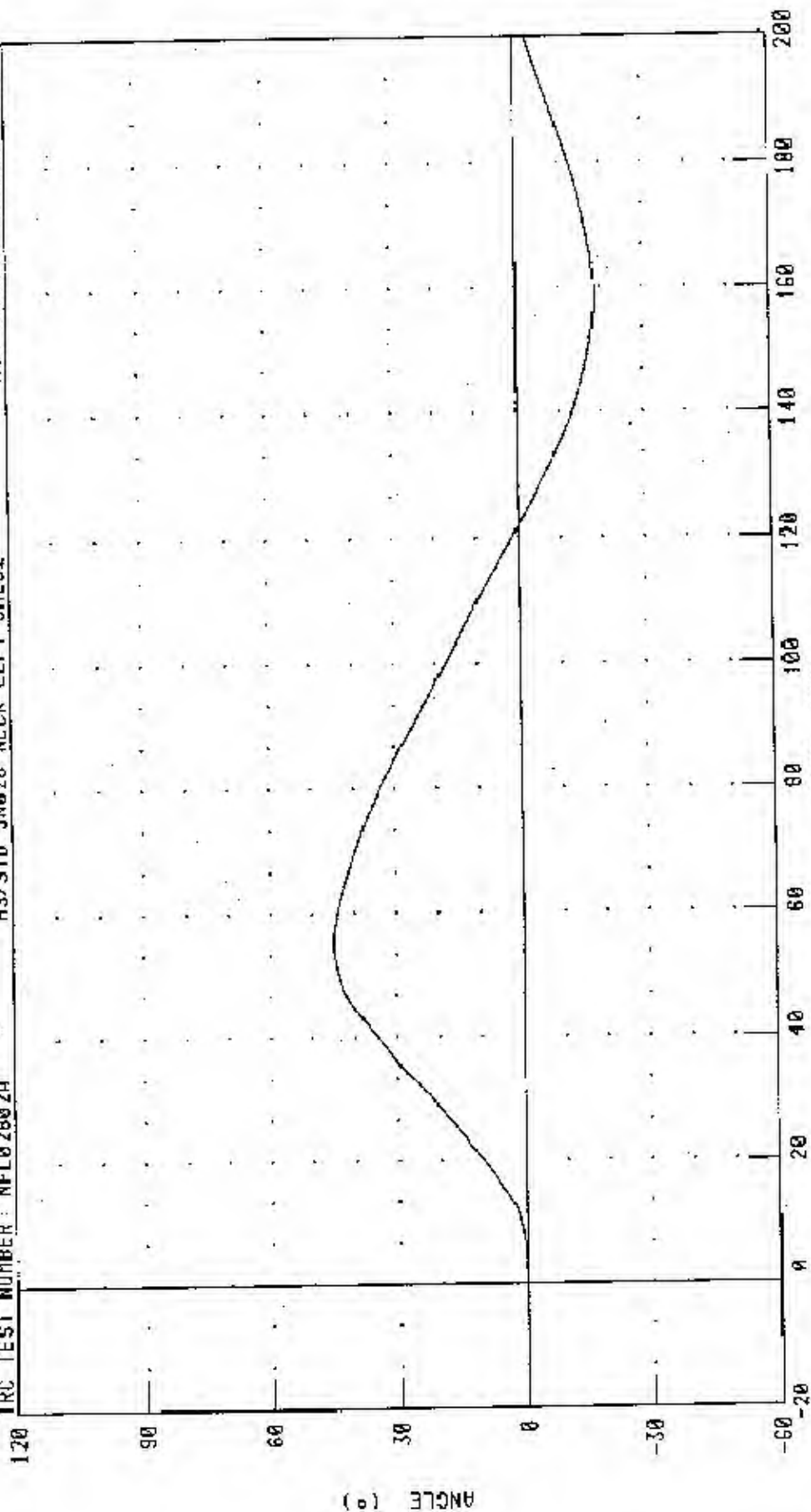
# H3/SID DUMMY CALIBRATION -- LEFT LATERAL NECK TEST

ROTATION ABOUT OCCIPITAL CONDYLE

H3/SID SN078 NECK LEFT CAL02

RUN NUMBER: 030503.1337.1

IRC TEST NUMBER: NFL02602A



TIME (MS)

PEAK DATA: 45.13 ° @ 55.44 MS, -18.87 ° @ 158.56 MS

CHANNEL: THETA FILTER: CH. CLASS 60

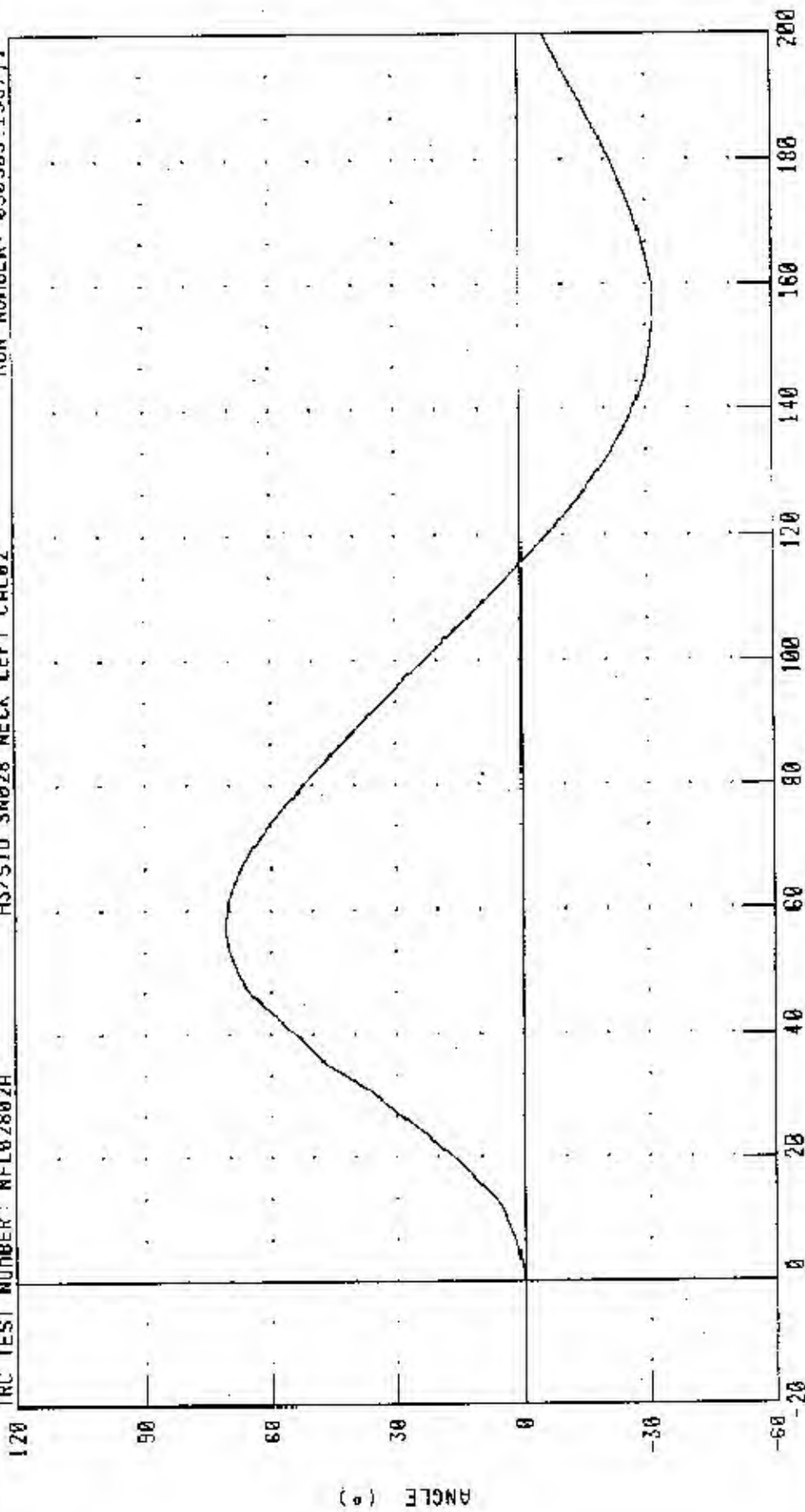
# H3/SID DUMMY CALIBRATION -- IFFT LATERAL NECK TEST

TOTAL ROTATION

RUN NUMBER: 030503.1337.1

TRC TEST NUMBER: NFL02802A

H3/SID SN028 NECK LEFT CAL02



TIME (MS)

PEAK DATA: 70.00 ° @ 57.20 MS; -31.95 ° @ 156.40 MS

CHANNEL TOTAL FILTER: CH CLASS 60

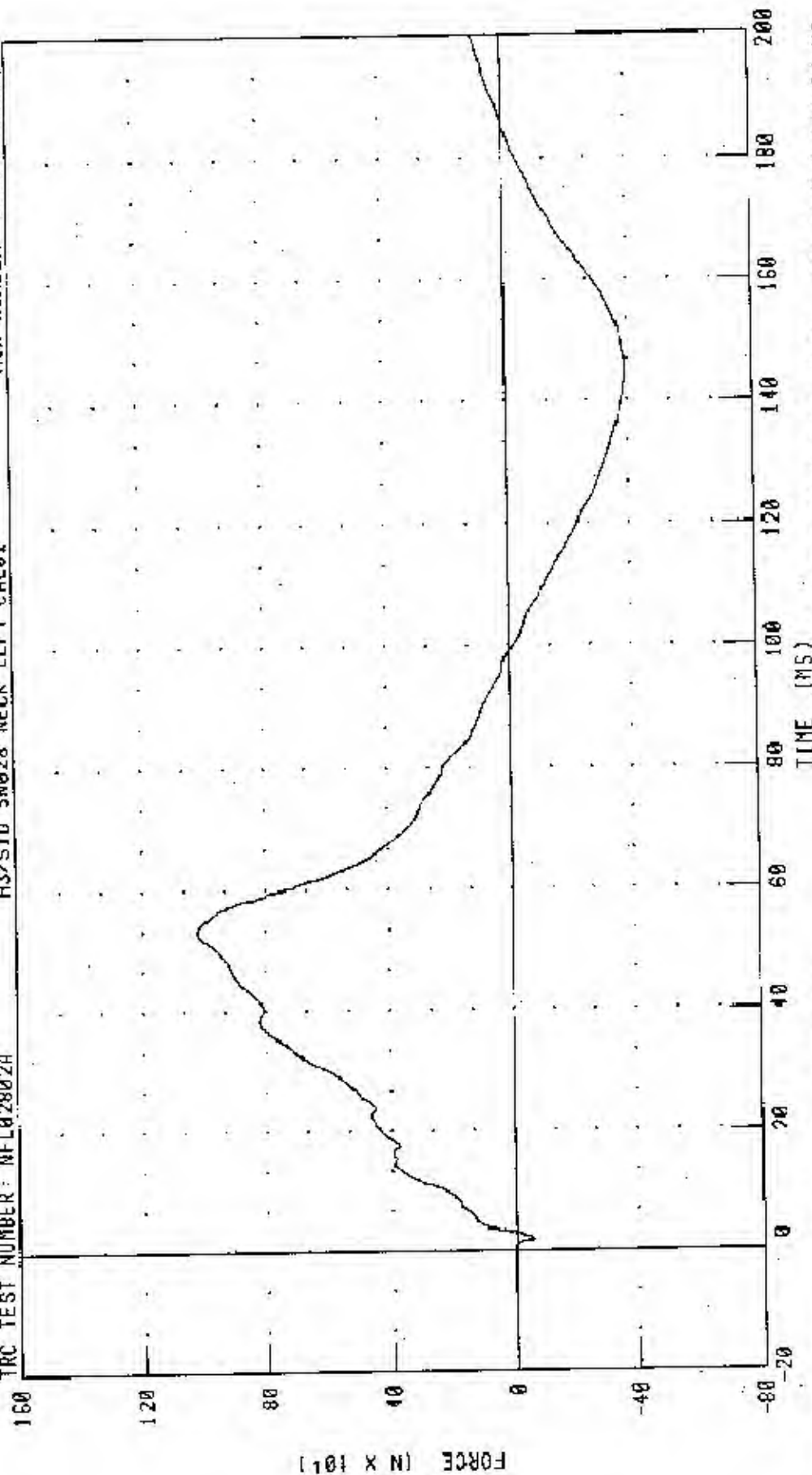
# 113/510 DUMMY CALIBRATION -- LEFT LATERAL NECK TEST

NECK FORCE Y AXIS

TRC TEST NUMBER: NFL02802A

H3/S10 SN028 NECK LEFT CAL02

RUN NUMBER: 030503.1337.1



PEAK DATA: 1018.93 N @ 53.28 MS, -391.31 N @ 144.64 MS

CHANNEL: NEKYF FILTER: CH CLASS: 1000

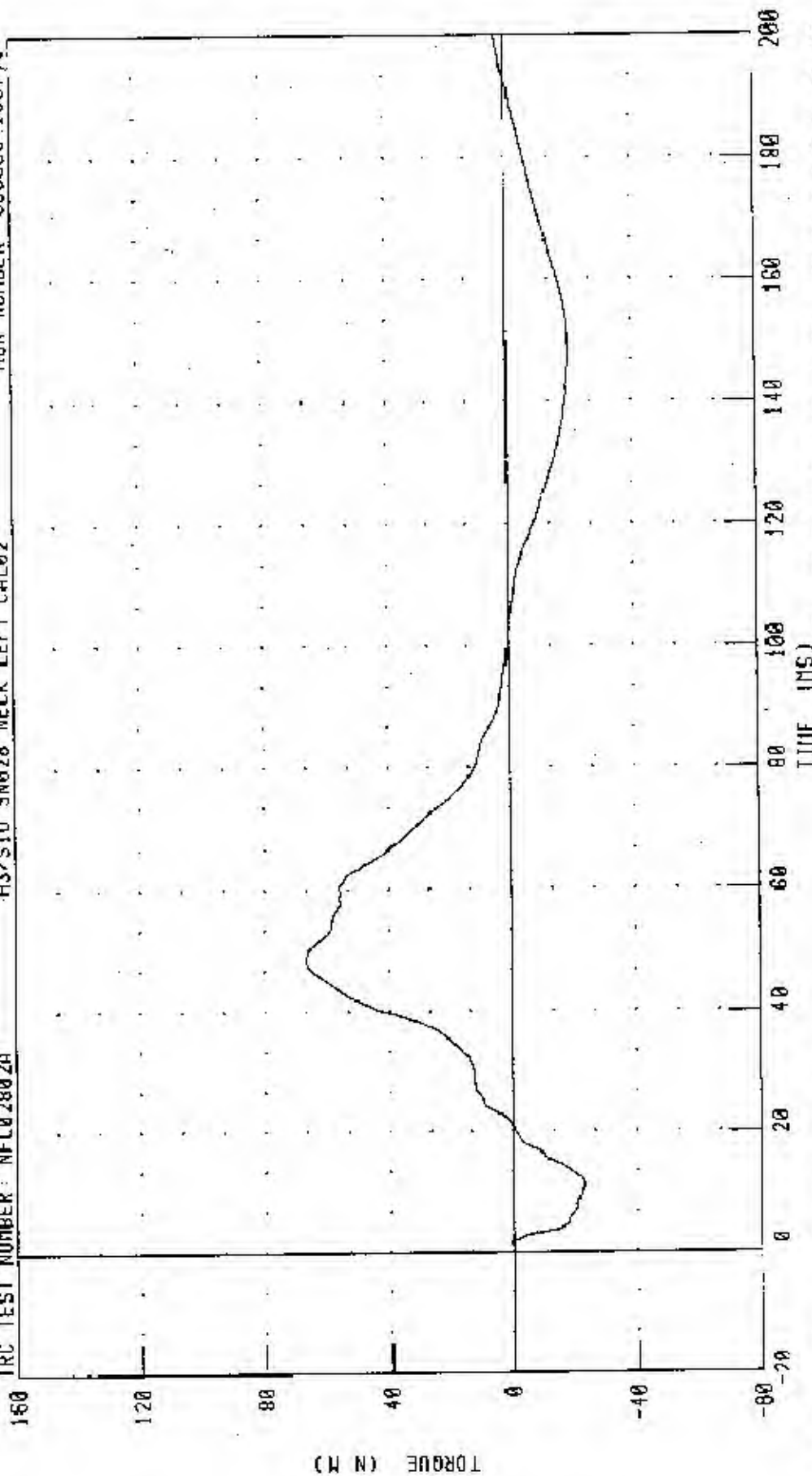
# H3/S10 DUMMY CALIBRATION -- LEFT LATERAL NECK TEST

NECK MOMENT X AXIS

TRC TEST NUMBER: NFL02802A

H3/S10 SN028 NECK LEFT CAL02

RUN NUMBER: 030503.1337.1



TIME (MS)

PEAK DATA: 68.64 N·m @ 48.32 MS, -22.97 N·m @ 11.20 MS

CHANNEL: NEKX1 FILER: CH. CLASS 600



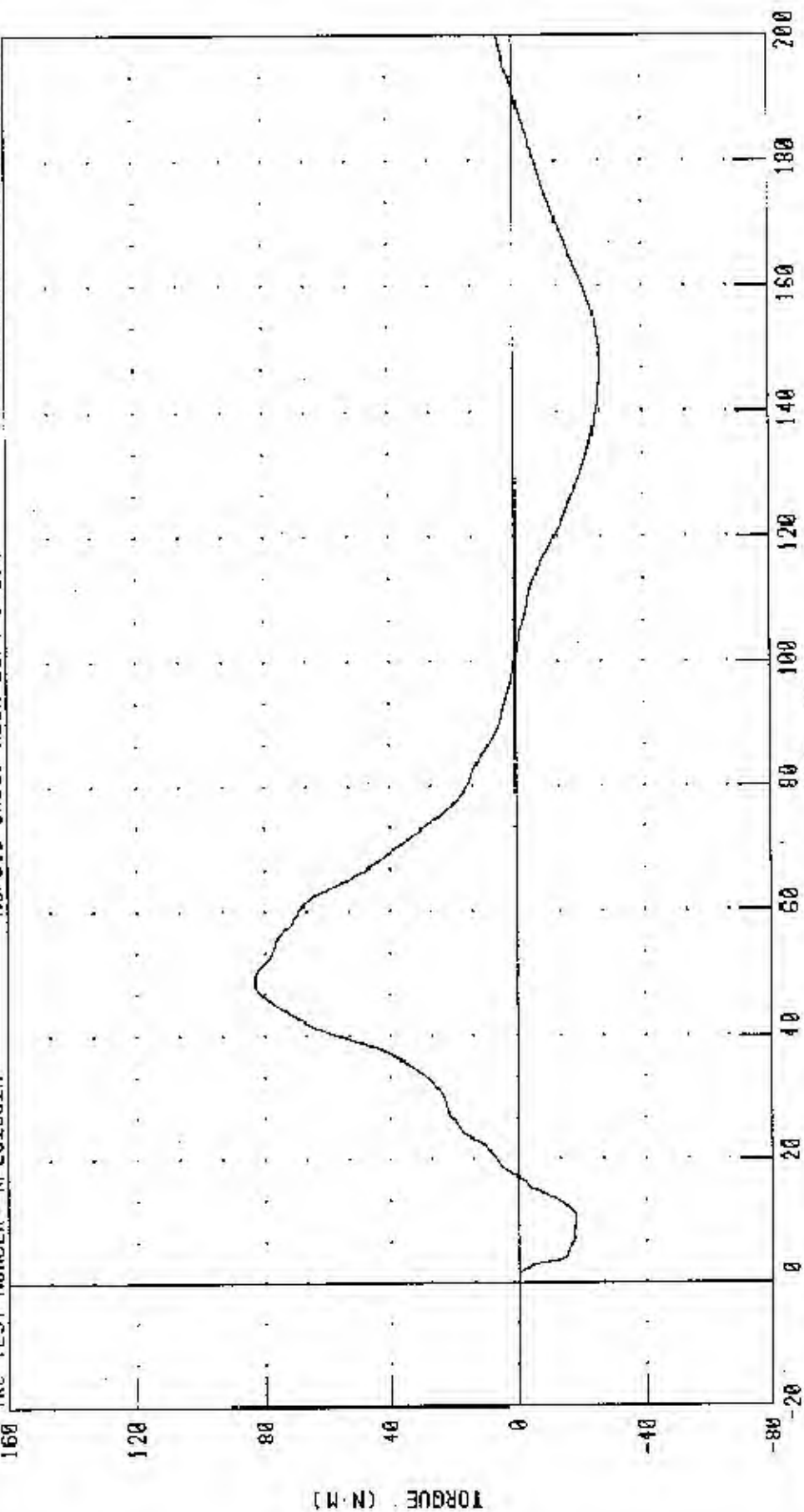
# H3/SID DUNNY CALIBRATION -- LEFT LATFRAL NECK TEST

TOTAL MOMENT ABOUT OCCIPITAL CONDYLE

RUN NUMBER: 030503.1337.1

TRC TEST NUMBER: NFL02802A

H3/SID SN028 NECK LEFT CAL02



TIME (MS)

PEAK DATA: 83.25 N M @ 48.88 MS, -25.70 N M @ 148.48 MS

CHANNEL: NEKOM FILTER: CH CLASS 600

## TRANSPORTATION RESEARCH CENTER INC.

## LATERAL THORAX IMPACT TEST

SIDE IMPACT DUMMY

28-FEB-03

LEFT SIDE CONFIGURATION

TRC INC.

TEST NO: STL02802

572F SID SN028 L. THORAX CAL02

TEST PARAMETER	SPECIFICATION (ABSOLUTE VALUE)	TEST RESULTS
TEMPERATURE	18.9 - 25.5 C	21.7 DEG. C
RELATIVE HUMIDITY	10 - 70 %	29.0 %
PENDULUM VELOCITY	4.21 - 4.33 M/S	4.28 M/S
PEAK ACCELERATION: UPPER RIB BAR	37 - 46 G	39.1 G
PEAK ACCELERATION: LOWER RIB BAR	37 - 46 G	37.3 G
PEAK ACCELERATION: LOWER THORACIC SPINE	15 - 22 G	16.5 G

TEST MEETS SPECIFICATIONS

TECHNICIAN 

RUN NUMBER: 022803.1318;1

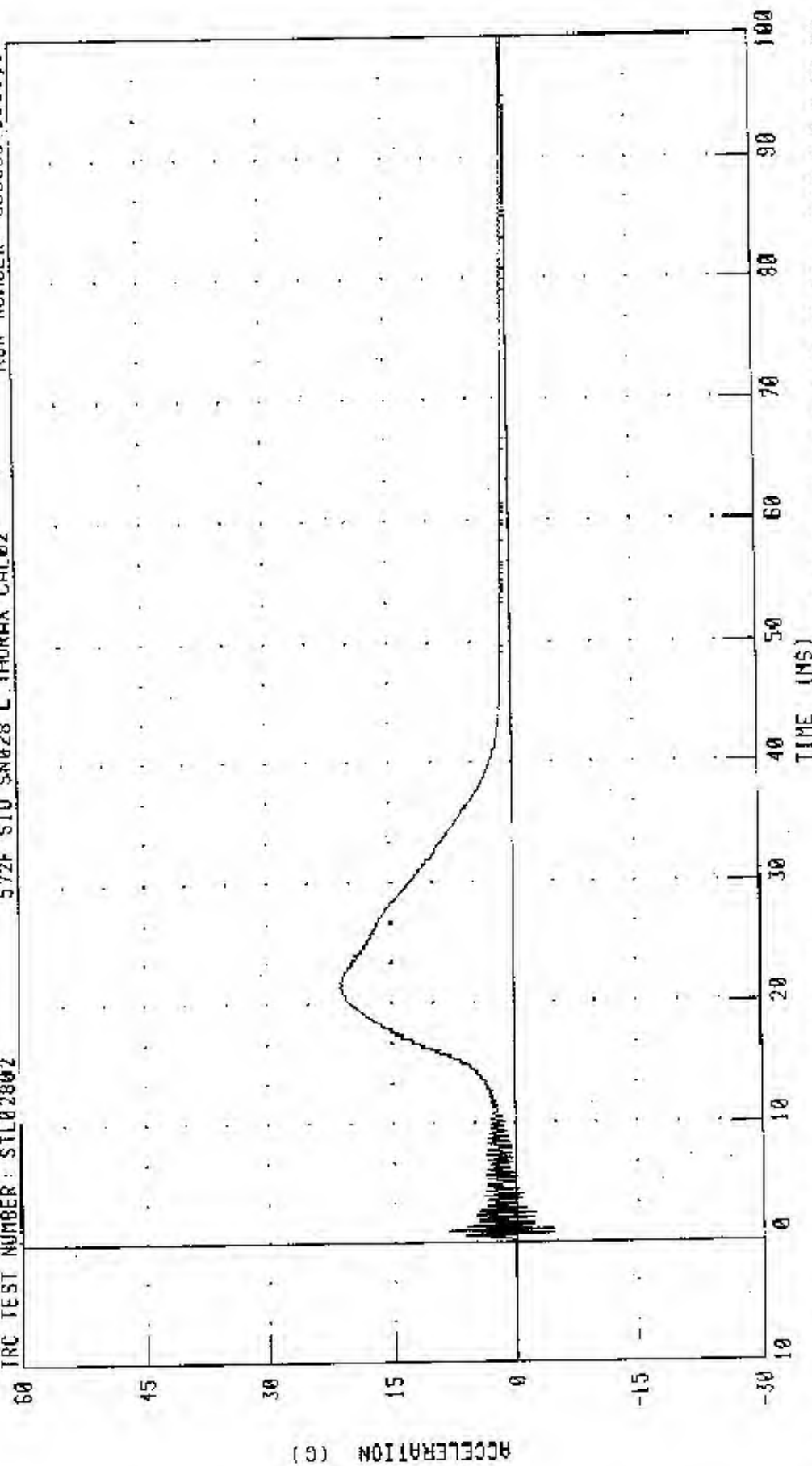
# PART 572-F S.I.D. THORAX CALIBRATION - (LEFT SIDE IMPACT)

PENDULUM DECELERATION

TRC TEST NUMBER: SYL02802

572F S10 SN028 L THORAX CAL02

RUN NUMBER: 030303 0850:1



CHANNEL: PENXC FILTER: CH CLASS 1000

PEAK DATA: 21.88 G 21.88 MS; -4.80 G 0.00 MS

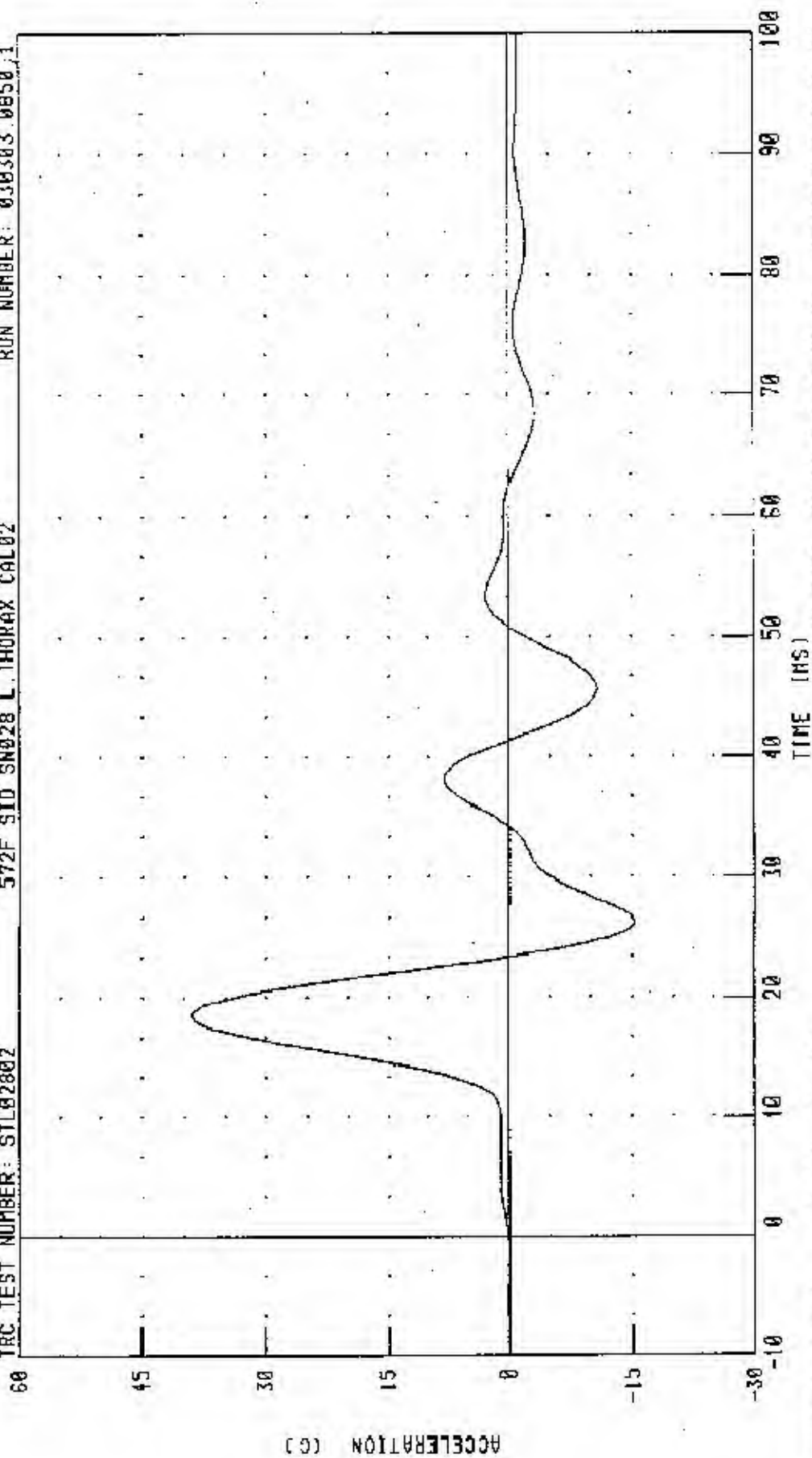
# PART 572-F S.I.D. THORAX CALIBRATION - (LEFT SIDE IMPACT)

LEFT UPPER RIB ACCELERATION Y AXIS

TRC TEST NUMBER: S1L02002

572F SID SN028 L THORAX CAL02

RUN NUMBER: 030303.0050.1



CHANNEL: LURYC FILTER: FIR 100

PEAK DATA: 39.11 G @ 18.75 MS; -15.24 G @ 26.25 MS



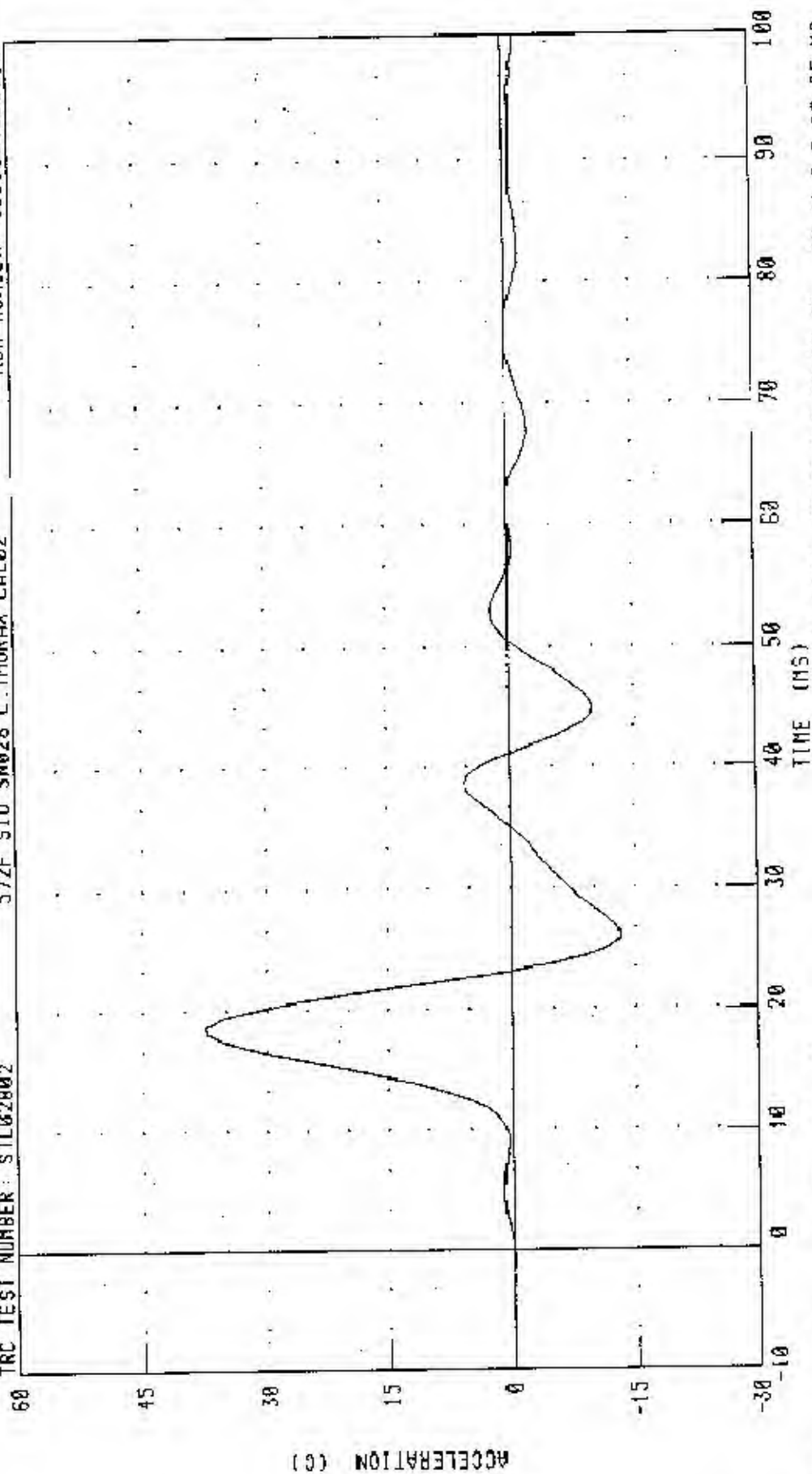
PART 572-F S.I.O. THORAX CALIBRATION - (LEFT SIDE IMPACT)

LEFT LOWER RIB ACCELERATION Y AXIS

RUN NUMBER: 030303.0850.1

TRC TEST NUMBER: STL02802

572F SID SN028 L THORAX CAL02



TIME (MS)

PEAK DATA: 37.29 G @ 18.75 MS; -13.11 G @ 26.25 MS

CHANNEL: IIRYC FILTER: FIR 100

ACCELERATION (G)

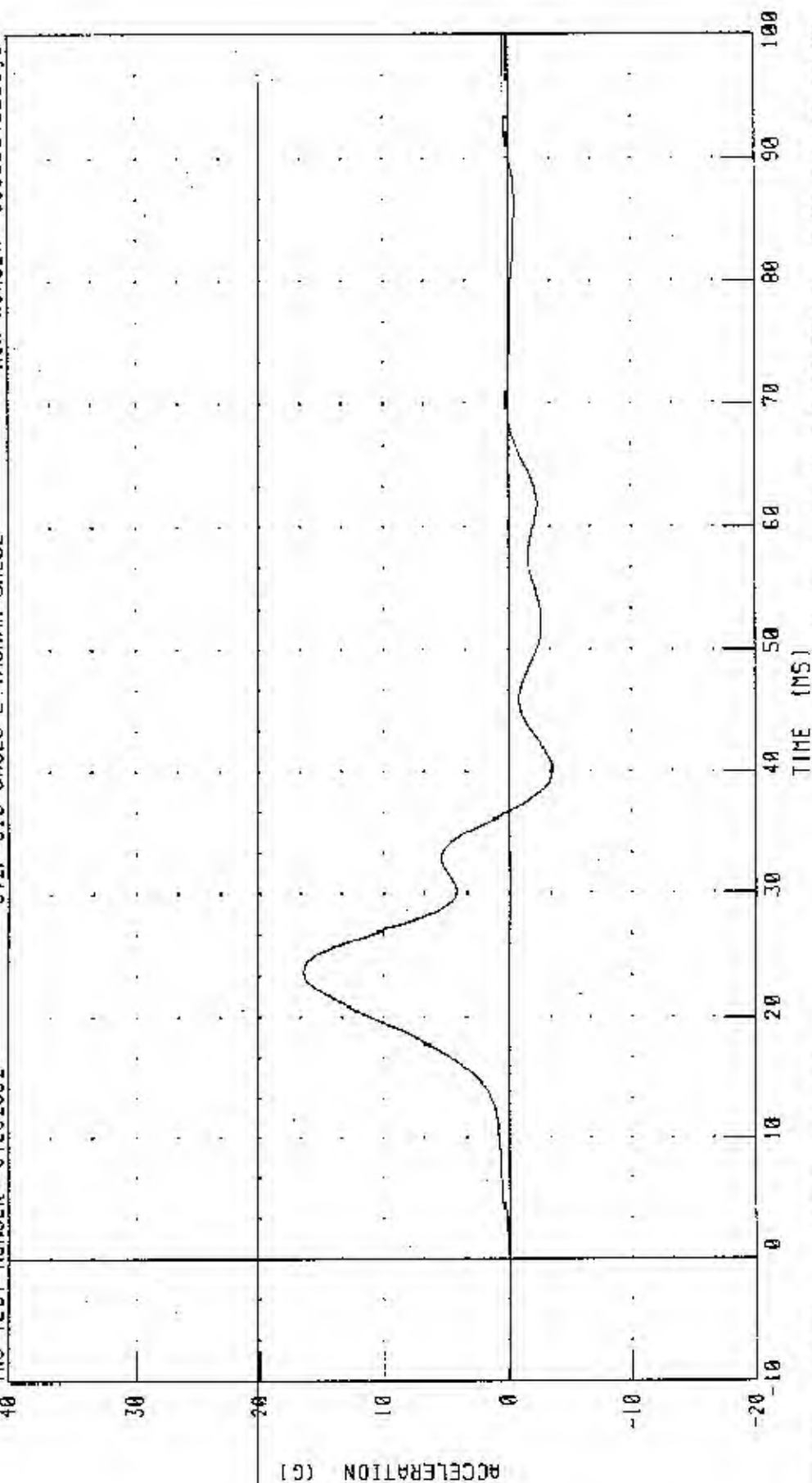
PART 572-F S.I.O. THORAX CALIBRATION - (LEFT SIDE IMPACT)

LOWER SPINE ACCELERATION Y AXIS

TRC TEST NUMBER: STL02002

572F SIO SN028 L THORAX CAL02

RUN NUMBER: 030303 0850.1



CHANNEL: 112YG FILTER: FIR 100

TIME (MS)

PEAK DATA: 16.46 G @ 23.75 MS, -3.53 G @ 40.00 MS

# Transportation Research Center Inc.

572B Abdomen Compression Test

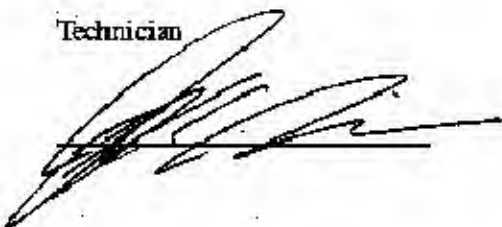
III SID Serial No. 028 Calibration No. 02 - 1

Test Date 03/05/2003

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.5 °C	21.7 °C	Yes
Relative Humidity	10 - 70 %	33 %	Yes
Displacement Rate	6.35 - 8.89 mm/s	6.4 - 8.1 mm/s	Yes
Data Within Required Corridor	Yes	Yes	Yes

Comments:

Technician



Approved



03.06.2003 07:03:27 3

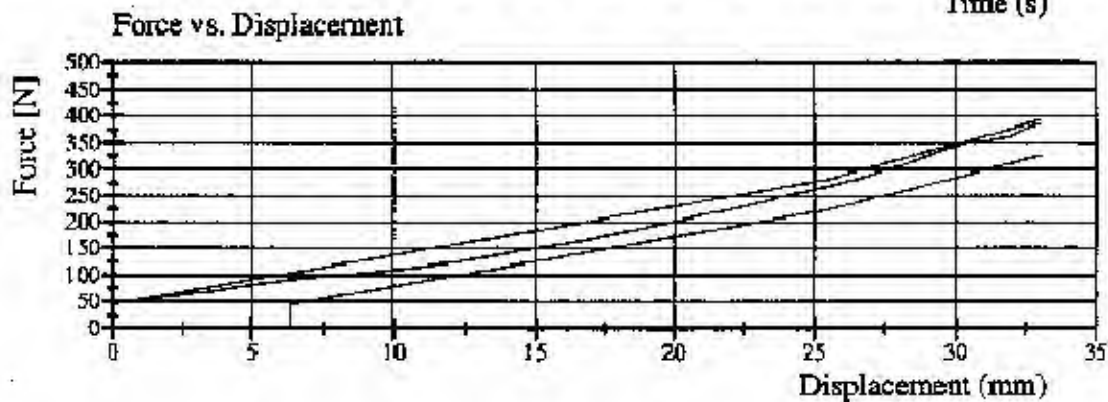
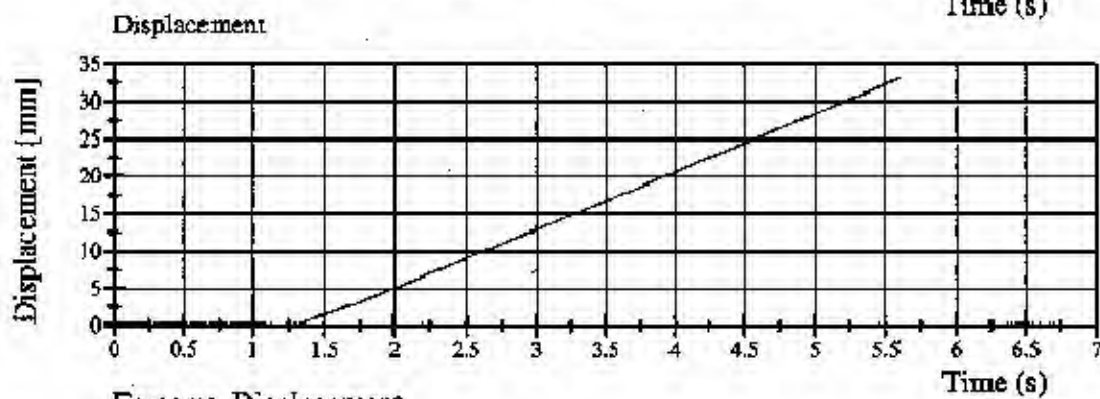
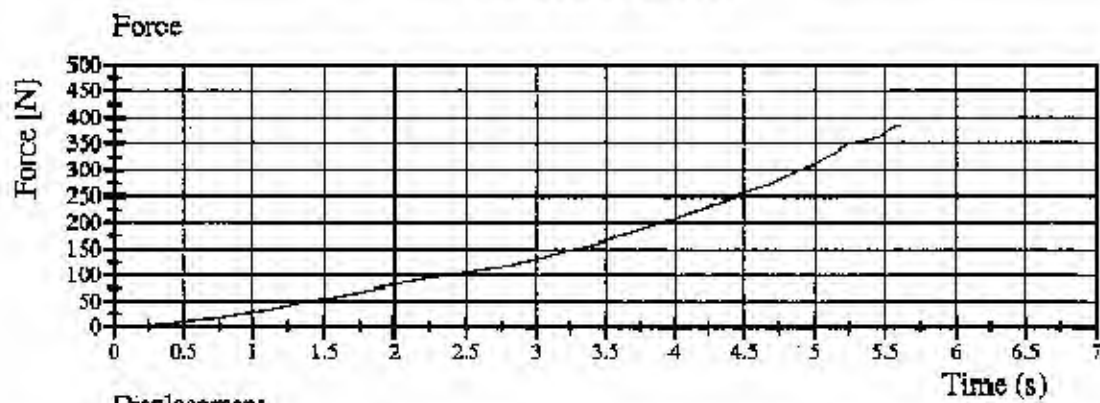


# Transportation Research Center Inc.

572B Abdomen Compression Test

HHH SID Serial No. 028 Calibration No. 02 - 1

Test Date 03/05/2003



03.06.2003 07:03:28 3





TRANSPORTATION RESEARCH CENTER INC.

THORACIC SHOCK ABSORBER TESTS

SIDE IMPACT DUMMY

03-FEB-03

TRC INC.

572F SN028 DAMPER TEST CAL01

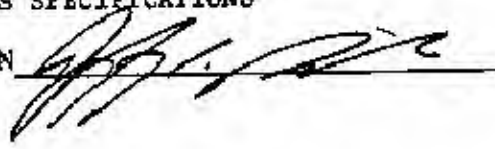
TEST NUMBERS: DP02801A, DP02801B, DP02801C

TEST PARAMETER		SPECIFICATION	TEST RESULTS
TEMPERATURE		18.9 - 25.5 C	21.7 DEG. C
RELATIVE HUMIDITY		10 - 70 %	46.0 %
VELOCITY	FORCE	667 - 925 N	750 N
2.69 M/S	DISPLACEMENT	29.7 - 34.5 MM	29.9 MM
VELOCITY	FORCE	1733 - 2100 N	1791 N
4.26 M/S	DISPLACEMENT	31.6 - 37.2 MM	34.9 MM
VELOCITY	FORCE	3784 - 4495 N	4259 N
6.12 M/S	DISPLACEMENT	33.3 - 39.6 MM	37.8 MM

DAMPER SETTING = 5.6

TEST MEETS SPECIFICATIONS

TECHNICIAN



RUN NUMBER: 020303.1116;2

PART 572-F S.I.D. THORACIC SHOCK ABSORBER CALIBRATION (3.0 M/SEC)

SHOCK ABSORBER RESISTIVE FORCE

572F SN020 DAMPER TEST CAL01

TRC TEST NUMBER: DP02B01A

50

40

30

20

10

0

-10

FORCE (N X 10<sup>2</sup>)

TIME (MS)

0 10 20 30 40 50 60 70 80 90 100

CHANNEL: DAMPF FILTER: CH. CLASS 1000

PEAK DATA: 749.74 N @ 6.16 MS; -1712.81 N @ 96.80 MS

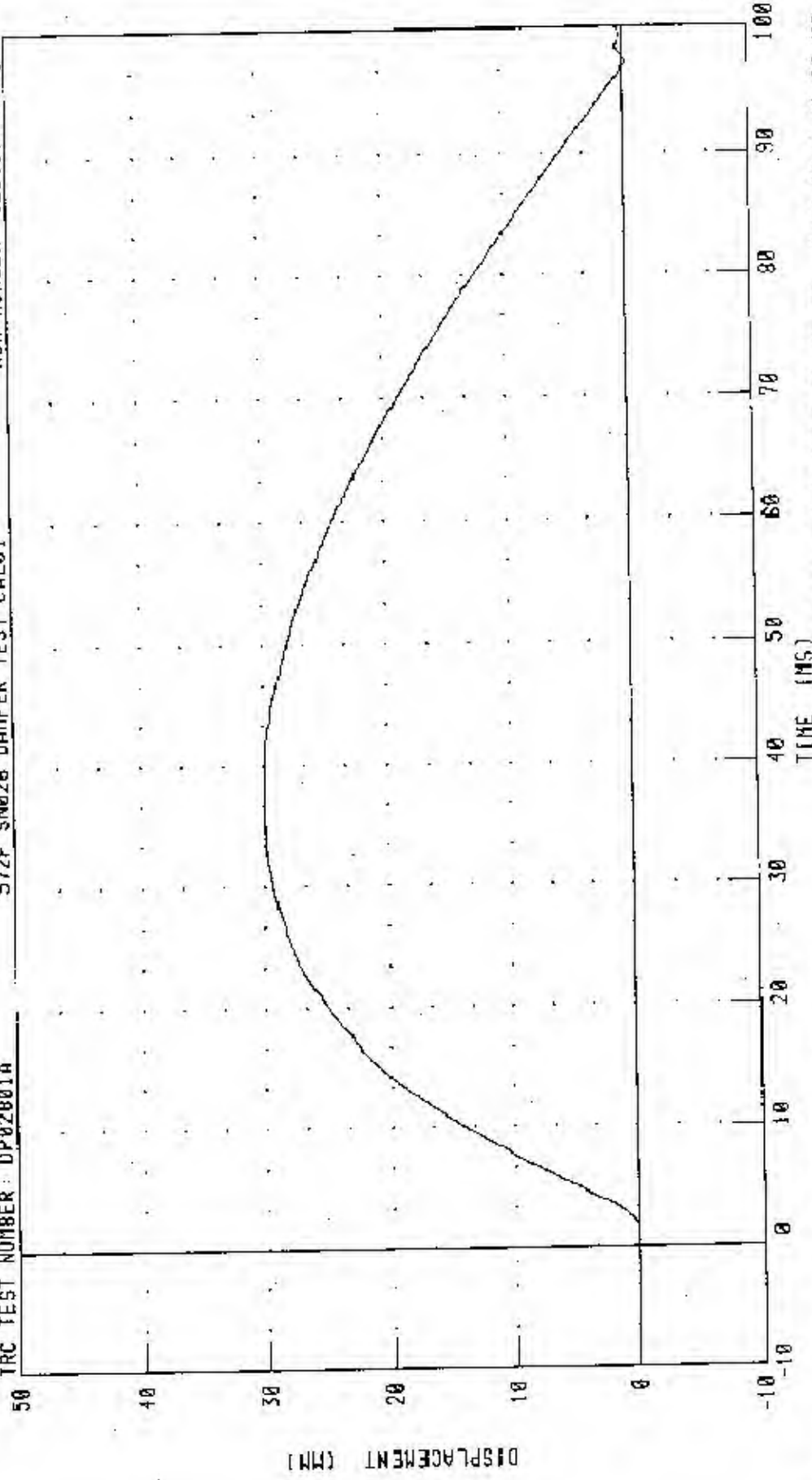
PART 572-F S.I.D. THORACIC SHOCK ABSORBER CALIBRATION (3.0 M/SEC)

SHOCK ABSORBER DISPLACEMENT

572F SN028 DAMPER TEST CAL01

RUN NUMBER: 020303.1116.2

TRC TEST NUMBER: DP02801A



PEAK DATA: 29.87 MM @ 35.20 MS, 0.31 MM @ 97.20 MS

CHANNEL: CSTYD FILTER: CH. CLASS 1000

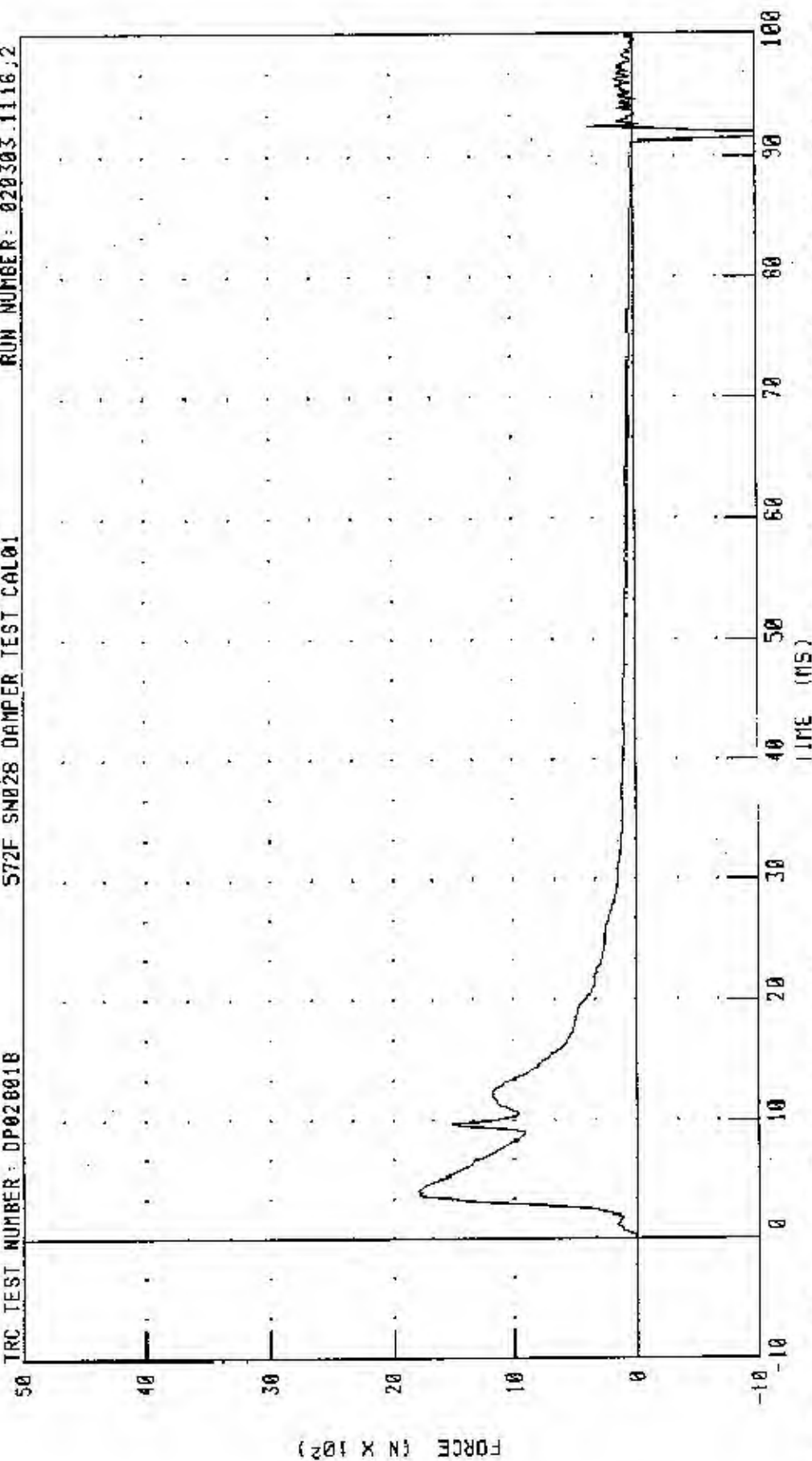
PART 572-F S.I.D. THORACIC SHOCK ABSORBER CALIBRATION (4.3 N/SEC)

SHOCK ABSORBER RESISTIVE FORCE

TRC TEST NUMBER: DP02001B

572F SN028 DAMPER TEST CAL01

RUN NUMBER: 020303.1116.2



TIME (MS)

PEAK DATA 1791.40 N @ 4.15 MS; -2164.23 N @ 91.68 MS

CHANNEL: DAMPF FILTER: CH. CLASS 1000



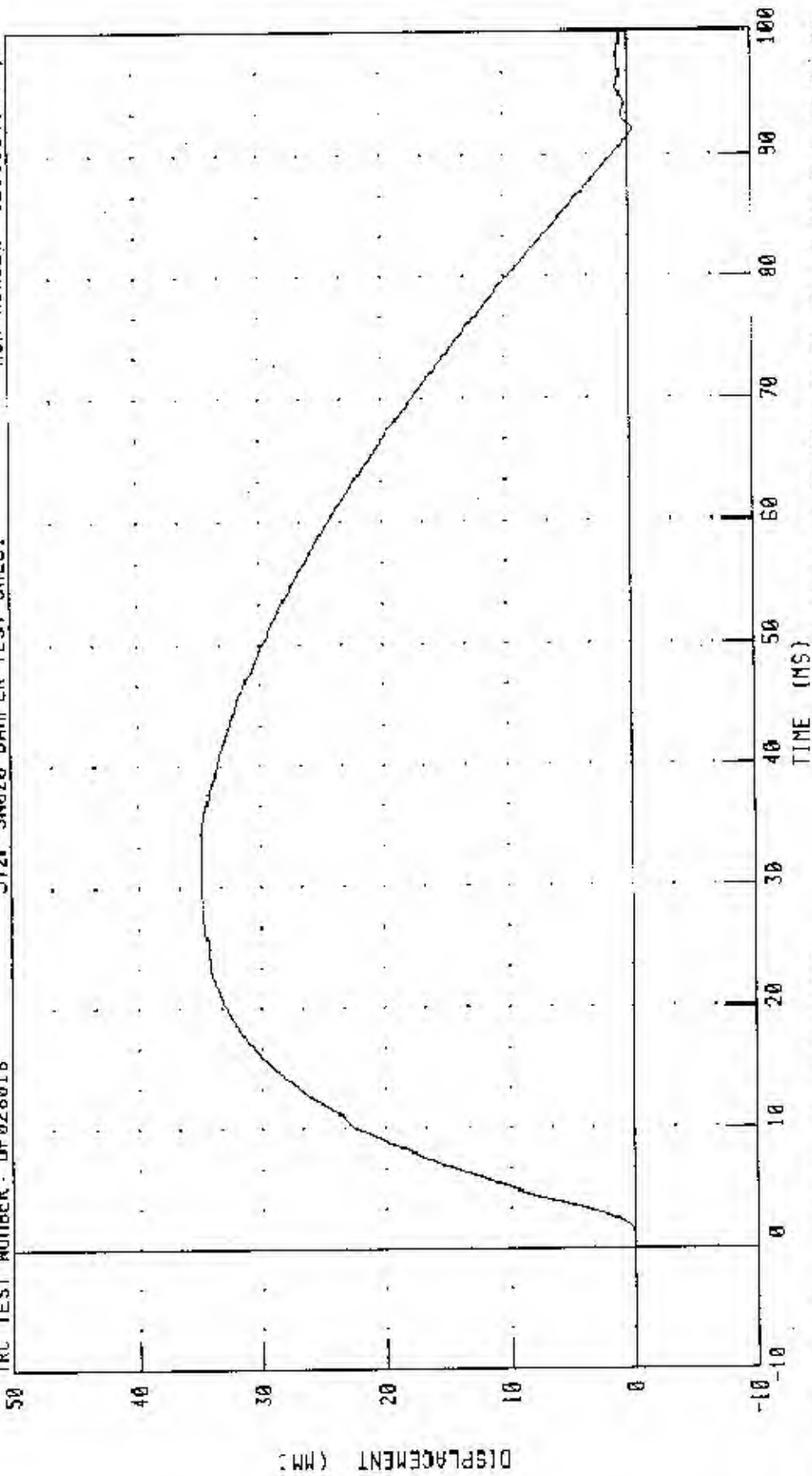
PART 572-F S I D THORACIC SHOCK ABSORBER CALIBRATION (4.3 N/SEC)

SHOCK ABSORBER DISPLACEMENT

TRC TEST NUMBER: DP02801B

572F SN028 DAMPER TEST CAL01

RUN NUMBER: 020303.1116.2



CHANNEL: CSTYD FILTER CH. CLASS 1000

PEAK DATA: 34.90 MM @ 30.64 MS; -0.40 MM @ 92.00 MS

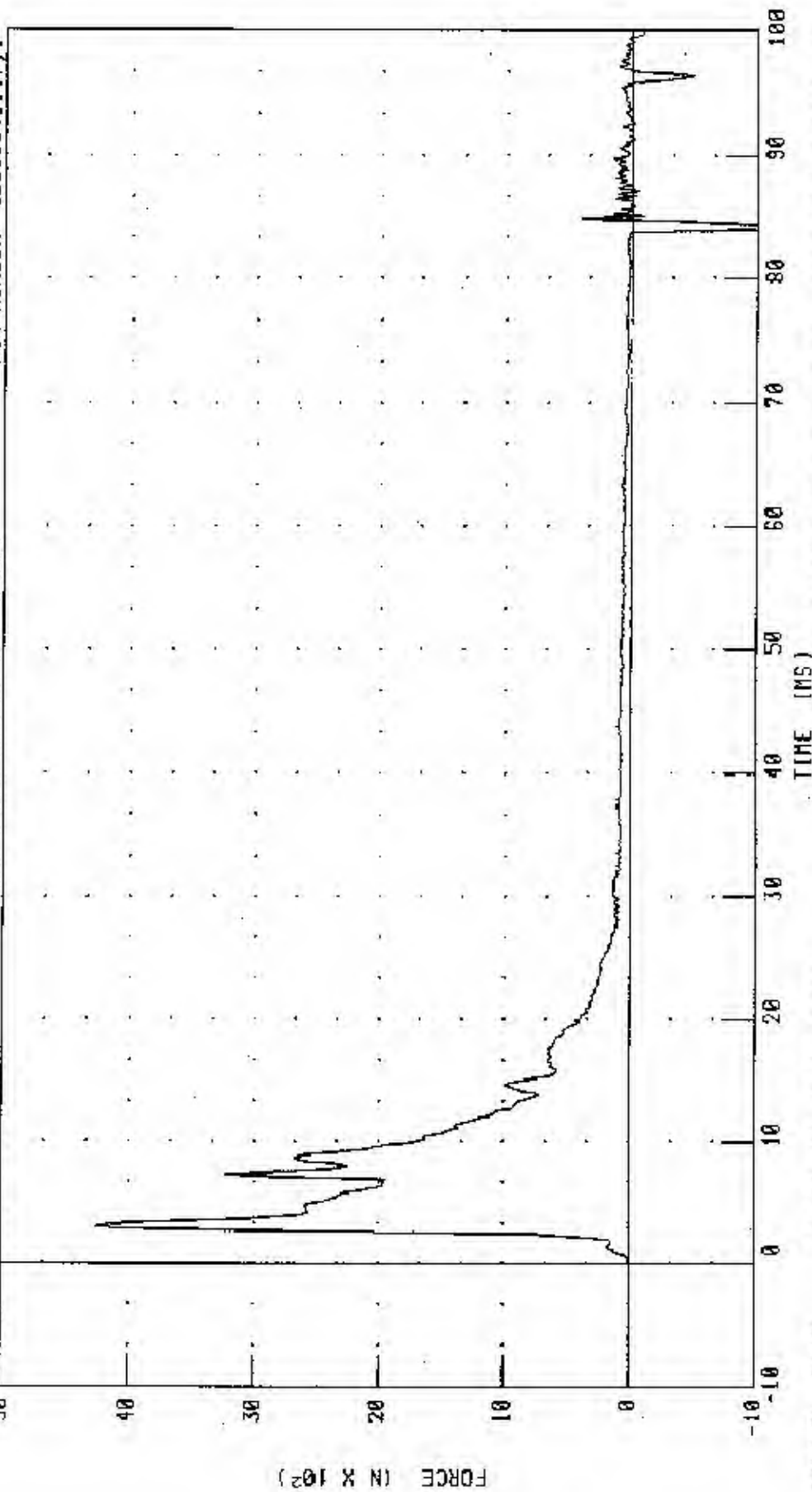
PART 572-F S.I.D. THORACIC SHOCK ABSORBER CALIBRATION (6.1 M/SEC)

SHOCK ABSORBER RESISTIVE FORCE

TRC TEST NUMBER: DP02001C

572F SN028 DAMPER TEST CAL01

RUN NUMBER: 020303.1117.1



CHANNEL: DAMPF FILTER: CH. CLASS 1000

PEAK DATA: 4259.31 N @ 3.12 MS, -2213.42 N @ 84.24 MS

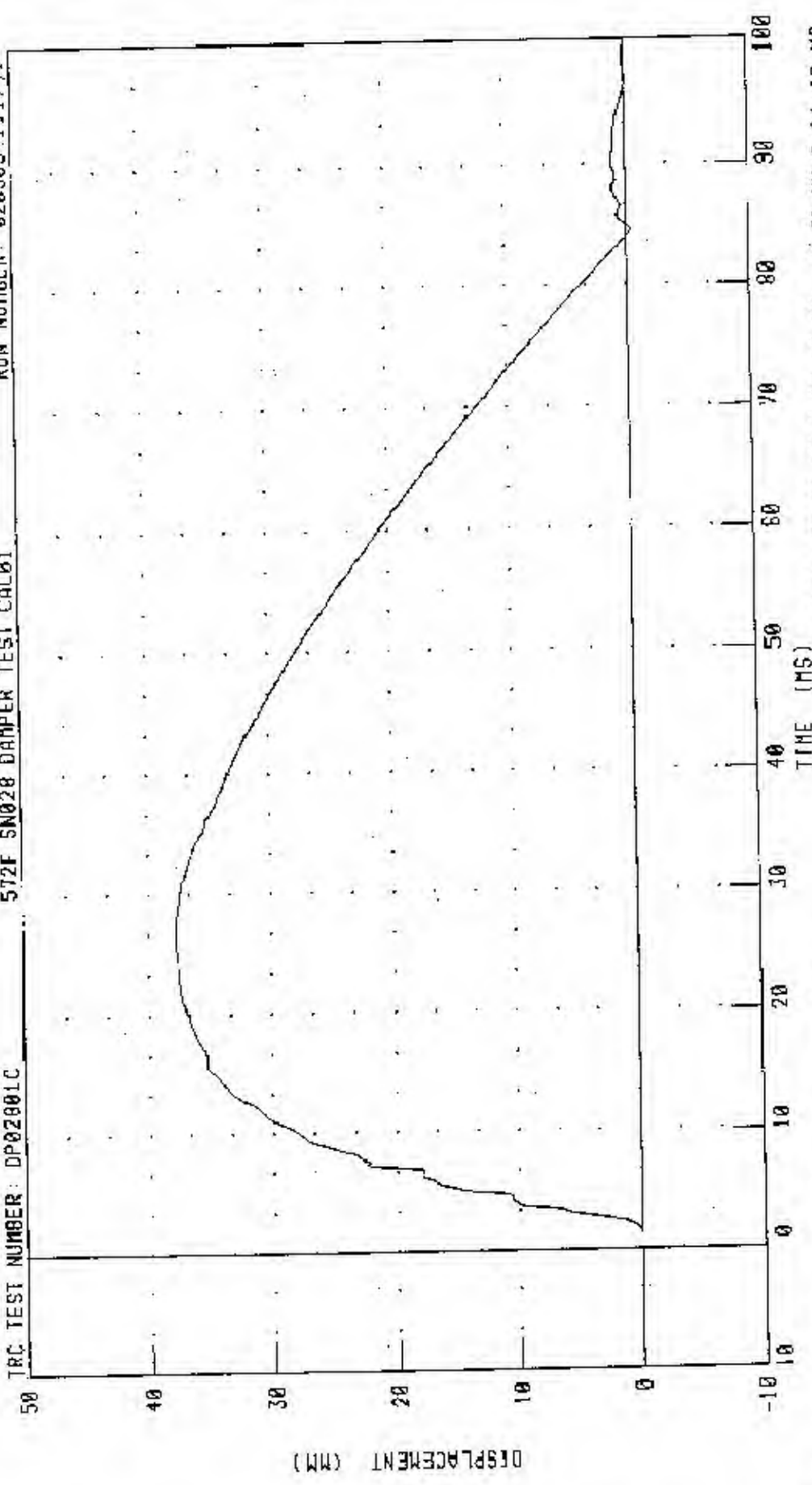
PART 572-F S 1.0 THORACIC SHOCK ABSORBER CALIBRATION (6.1 N/SEC)

SHOCK ABSORBER DISPLACEMENT

RUN NUMBER: 020303.1117.1

572F SN028 DAMPER TEST CAL01

TRC TEST NUMBER: DP02001C



TIME (MS)

PEAK DATA 37.75 MM @ 20.56 MS; -0.36 MM @ 84.48 MS

CHANNEL: CSTVD FILTER: CIL CLASS 1000

TRANSPORTATION RESEARCH CENTER INC.

LUMBAR FLEXION TEST

SID PART 572B

CAL DATE: 05-Mar-03

TRC, INC.

TEST NO: 028C02LF1

572B SN 028 TORSO FLEX CAL 02

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE	18.9 - 25.6° C	21.7 °C
RELATIVE HUMIDITY	10 - 70 %	32 %
FORCE AT 0 DEG. FLEXION	-27 - 27 N	0 N
FORCE AT 20 DEG OF FLEXION	98 - 151 N	129.0 N
FORCE AT 30 DEG OF FLEXION	151 - 205 N	169.0 N
FORCE AT 40 DEG OF FLEXION	205 - 258 N	226.9 N
NET RETURN ANGLE AFTER 3 MINUTES	< 12 °	5 °

TEST MEETS SPECIFICATIONS

TECHNICIAN 



TRANSPORTATION RESEARCH CENTER INC.

LATERAL PELVIS IMPACT TEST

SIDE IMPACT DUMMY

28-FEB-03

LEFT SIDE CONFIGURATION


TAC INC.

TEST NO: SPL02802

572F SN028 LEFT PELVIS CAL02

TEST PARAMETER	SPECIFICATION (ABSOLUTE VALUE)	TEST RESULTS
TEMPERATURE	18.9 - 25.5 C	21.7 DEG. C
RELATIVE HUMIDITY	10 - 70 %	29.0 %
PENDULUM VELOCITY	4.21 - 4.33 M/S	4.28 M/S
PEAK PELVIC ACCELERATION	40 - 60 G	48.4 G
TIME ABOVE 20 G LEVEL	3 - 7 MS	6.2 MS
IS ACCELERATION CURVE UNIMODAL?	YES	YES

TEST MEETS SPECIFICATIONS

TECHNICIAN 

RUN NUMBER: 022803.1327;1

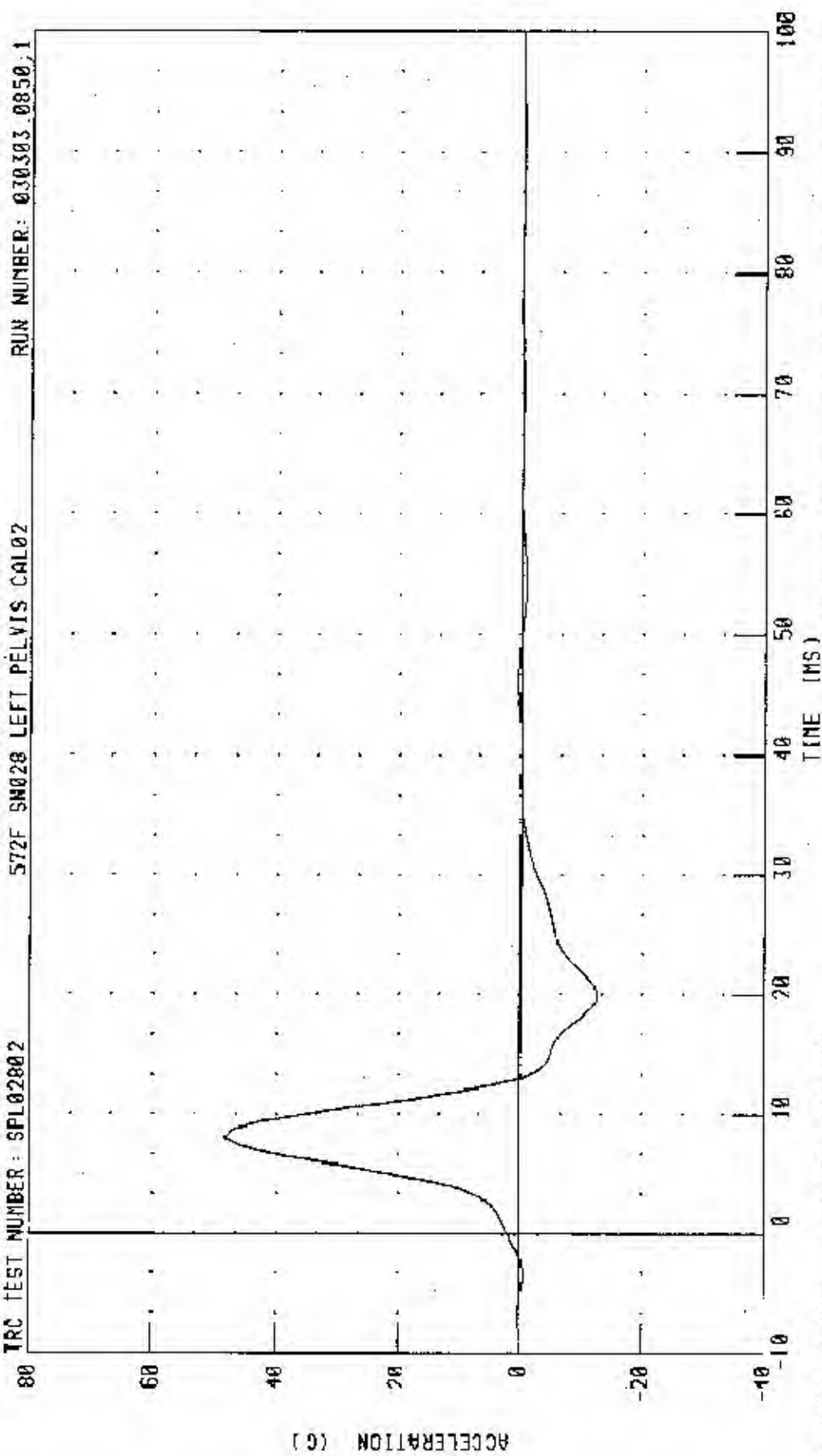
PART 572-F S.I.D. PELVIS CALIBRATION - (LEFT SIDE IMPACT)

PELVIS ACCELERATION Y AXIS

TRC TEST NUMBER: SPL02802

572F SN028 LEFT PELVIS CAL02

RUN NUMBER: 030303.0850.1



CHANNEL: PEVYC FILTER: FIR 100

PEAK DATA: 48.36 G @ 8.13 MS, 12.62 G @ 20.00 MS

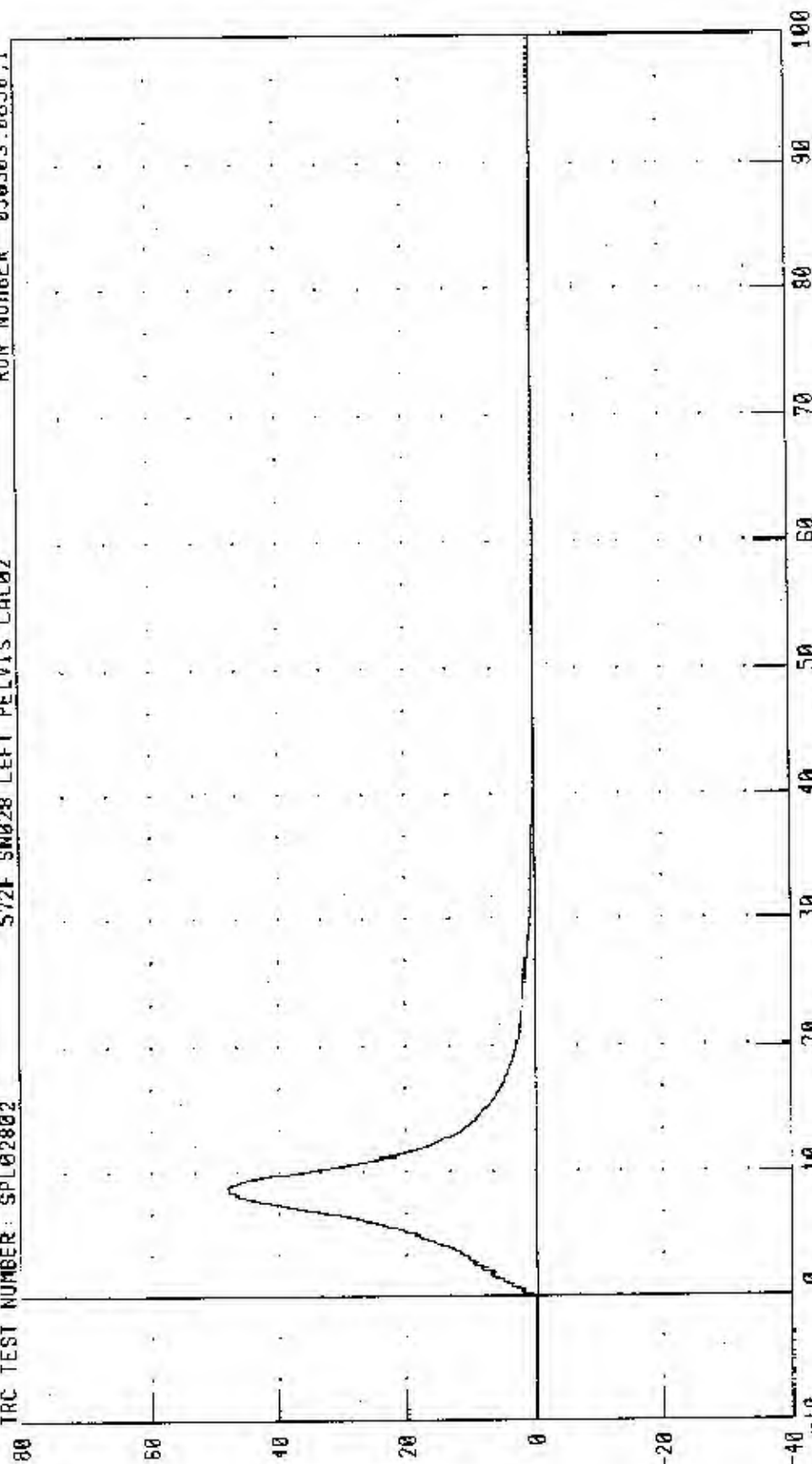
PART 572-F S.I.D. PELVIS CALIBRATION - (LEFT SIDE IMPACT)

PENDULUM DECELERATION

RUN NUMBER 030303.0850.1

572F SN028 LEFT PELVIS CAL02

TRC TEST NUMBER: SPL02802



TIME (MS)

PEAK DATA 48.16 G @ 8.80 MS; -0.18 G @ 97.84 MS

CHANNEL: PENXS FILTER: CH. CLASS 1000

ACCELERATION (G)

Calibration Test Results

Pre-Test

SID: 065

Configured for Left Side Impact

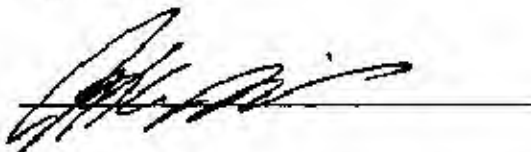
External Dimensions:	The dummy passed all external dimension requirements.
Lateral Head Drop Test:	The head passed all lateral drop test requirements.
Lateral Neck Test:	The neck passed all impact test requirements.
Lateral Thorax Impact Test:	The thorax passed all impact test requirements.
Thoracic Shock Absorber Test:	The thorax passed all shock absorber requirements (tested on February 3, 2003, for a previous calibration series).
Lumbar Flexion Test:	The dummy met the lumbar flexion test requirements.
Abdominal Compression Test:	The abdomen met the compression test requirements.
Pelvis Impact Test:	The lateral pelvis passed all impact test requirements.



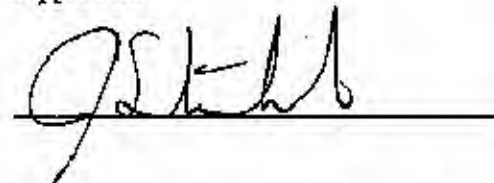
**Transportation Research Center Inc.**  
**572F STD Dummy**  
**External Dimensions**  
**Serial No. 065    Calibration No. 05**

Test Parameter	Dimension	Specification	Results	Pass
Seated Height	SH	889.0 - 909.3 mm	899 mm	Yes
Rib Height	RH	501.7 - 520.7 mm	512 mm	Yes
Hip Pivot Height	HP	99.1 REF mm	99.1 mm	
Rib From Backline	RD	228.6 - 241.3 mm	237 mm	Yes
Knee Pivot From Backline	KH	510.5 - 525.8 mm	513 mm	Yes
Knee Pivot From Floor	KV	490.2 - 505.5 mm	499 mm	Yes
Hip Width	HW	355.6 - 391.2 mm	372 mm	Yes
Top Rib Width From C/L	RW-1	165.1 - 180.3 mm	171 mm	Yes
Bottom Rib Width From C/L	RW-2	165.1 - 180.3 mm	171 mm	Yes
Difference Between Top & Bottom Rib Width from C/L		$\leq$ 2.5 mm	0.0 mm	Yes

Technician



Approved



**TRE**

TRANSPORTATION RESEARCH CENTER INC.

LATERAL HEAD DROP TEST

HYBRID III SID DUMMY

14-MAR-03

LEFT SIDE CONFIGURATION

TRC INC.

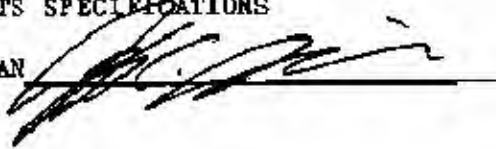
TEST NO. HDL06505

H3/SID SN065 HEAD DROP CAL05

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE	18.9 - 25.6 deg. C	21.67 deg. C
RELATIVE HUMIDITY	10 - 70 %	30.00 %
PEAK RESULTANT ACCELERATION	120 - 150 G	145.53 G
PEAK LONGITUDINAL ACCELERATION	15 G MAX	-9.09 G
IS ACCELERATION CURVE UNIMODAL?	YES	YES

TEST MEETS SPECIFICATIONS

TECHNICIAN



RUN NUMBER: 031403.0930;1

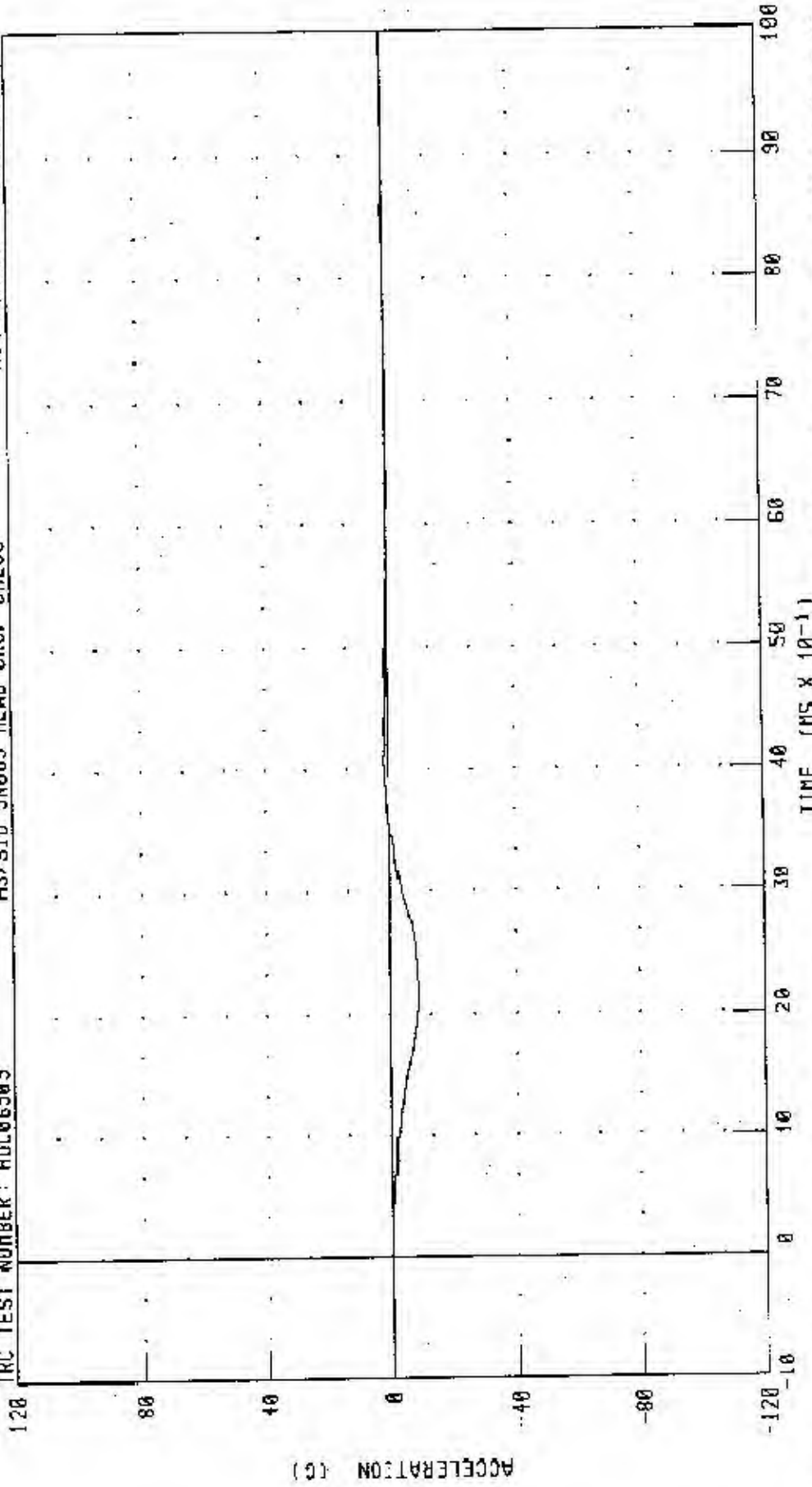
# BIOSID DUMMY CALIBRATION -- 35 DEGREE LEFT LATERAL HEAD DROP

HEAD ACCELERATION X AXIS

TRC TEST NUMBER: HDL06505

H3/S10 SN065 HEAD DROP CAL05

RUN NUMBER: 031403.0931.1



CHANNEL: HDUXG

FILTER: CH CLASS 1000

PEAK DATA: 1 42 G @ 4.08 MS, -9.09 G @ 2.16 MS

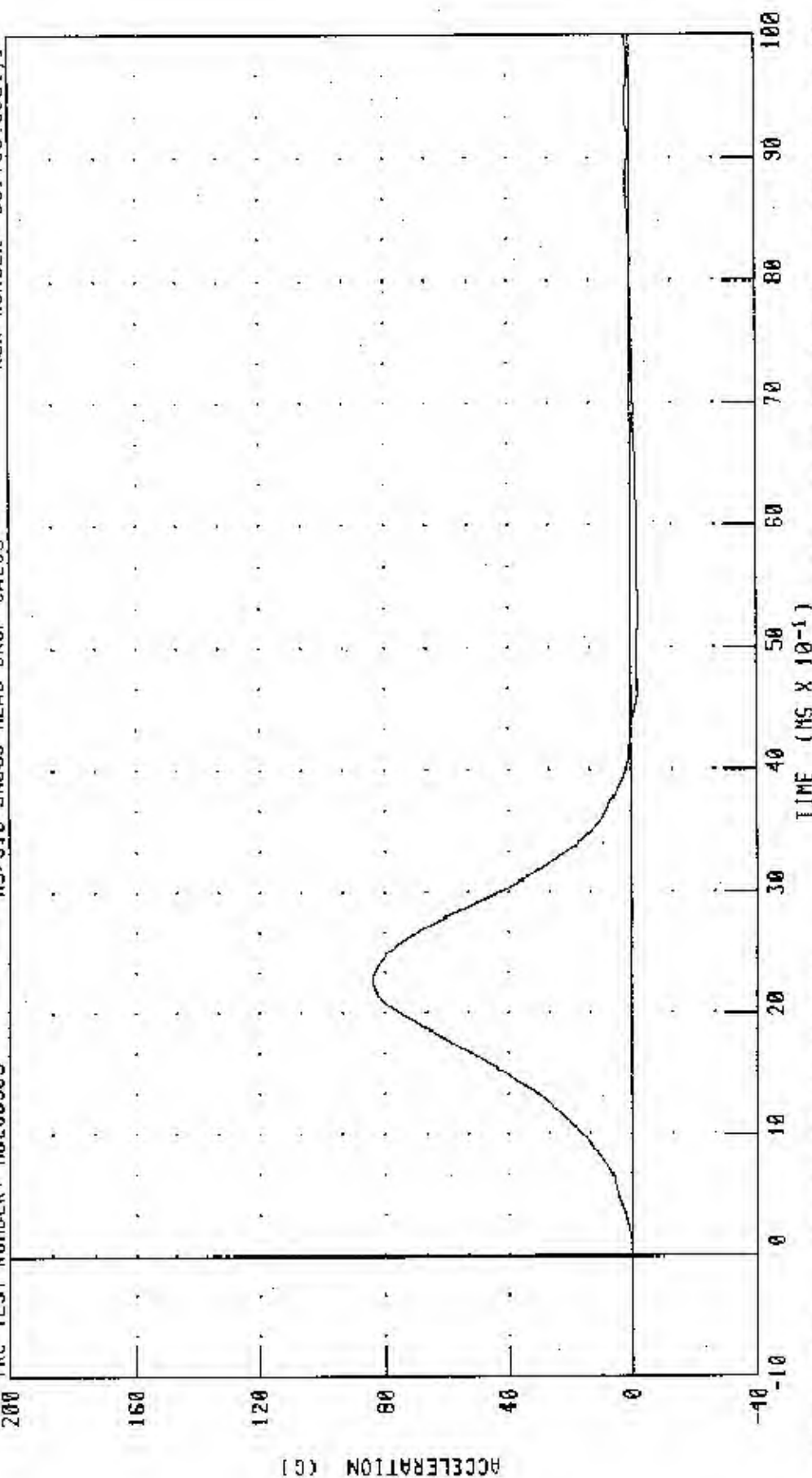
# BIOSID DUMMY CALIBRATION -- 35 DEGREE LEFT LATERAL HEAD DROP

HEAD ACCELERATION Y AXIS

TRC TEST NUMBER: HD106505

H3/S10 SN055 HEAD DROP CAL05

RUN NUMBER: 031403.0931.1



PEAK DATA: 03.99 G @ 2.24 MS; -2.55 G @ 5.28 MS

CHANNEL: HEDYG FILTER: CH. CLASS 1000

(5) 0010803000



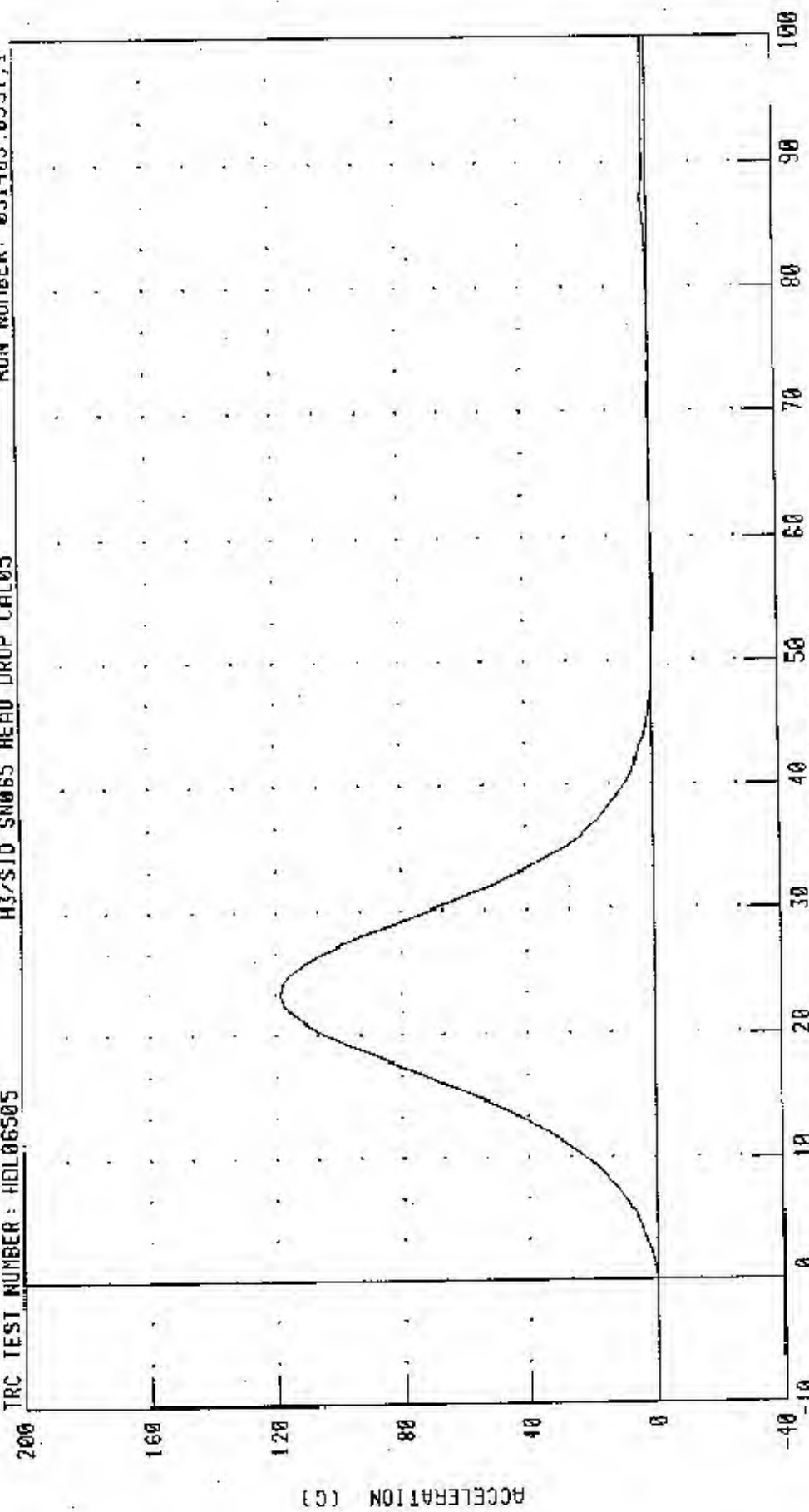
# BIOSID DUMMY CALIBRATION -- 35 DEGREE LEFT LATERAL HEAD DROP

HEAD ACCELERATION Z AXIS

RUN NUMBER: 031403.0931;1

H3/SID SN065 HEAD DROP CAL05

TRC TEST NUMBER: HEL06505



TIME (MS X 10<sup>-1</sup>)

PEAK DATA: 118.53 G @ 2.32 MS, -0.78 G @ 5.36 MS

FILTER: CH. CLASS 1000

CHANNEL: HEDZC

ACCELERATION (G)

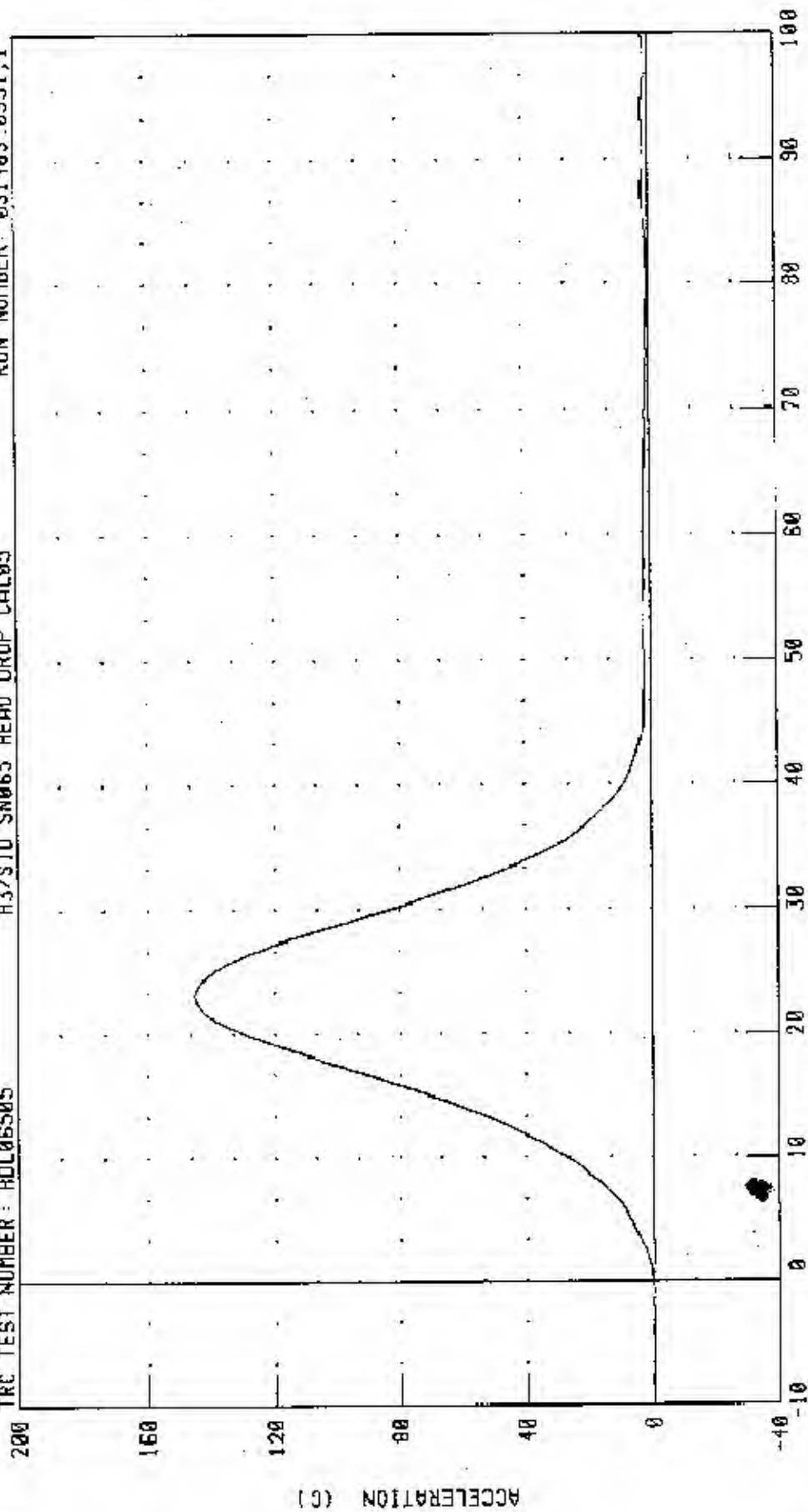
# 810SID DUNNY CALIBRATION -- 35 DEGREE LEFT LATRAI HEAD DROP

HEAD RESULTANT ACCELERATION

H3/S10 SN065 HEAD DROP CAL05

RUN NUMBER: 031403.0931;1

TRC TEST NUMBER: HDL06505



TIME (MS X 10<sup>-1</sup>)

PEAK DATA: 145.53 G @ 2.32 MS; 0.95 G @ -0.64 MS

CHANNEL: HEDRC FILTER: CH CLASS 1000

TRANSPORTATION RESEARCH CENTER INC.

LATERAL NECK TEST

HYBRIDIII SID DUMMY

14-MAR-03

LEFT SIDE CONFIGURATION

TRC INC.

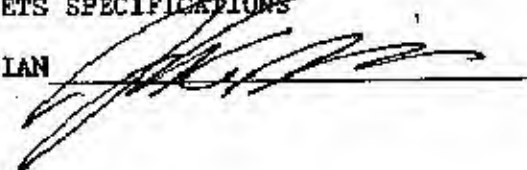
TEST NO. NFL06505C

H3/SID SM065 NECK LEFT CAL05

TEST PARAMETER		SPECIFICATION	TEST RESULTS
TEMPERATURE		20.6 - 22.2 deg. C	21.67 deg. C
RELATIVE HUMIDITY		10 - 70 %	30.00 %
IMPACT VELOCITY		6.89 - 7.13 M/S	6.99 M/S
INTEGRATED VELOCITY	10 MS	1.96 - 2.55 M/S	2.40 M/S
	20 MS	4.12 - 5.10 M/S	4.73 M/S
	30 MS	5.73 - 7.01 M/S	6.65 M/S
	40 - 70 MS	6.27 - 7.64 M/S	7.16 - 7.25 M/S
MAXIMUM MIDSAGGITAL PLANE ROTATION		66 - 82 deg.	68.26 deg.
ROTATION ANGLE DECAY TIME FROM PEAK TO ZERO		58 - 67 MS	58.56 MS
MAXIMUM MOMENT ABOUT OCCIPITAL CONDYLE		73 - 88 NM	81.87 NM
POSITIVE MOMENT DECAY TIME FROM PEAK TO ZERO		49 - 64 MS	49.52 MS
TIME OF MAXIMUM ROTATION AFTER MAXIMUM MOMENT		2 - 16 MS	10.16 MS

TEST MEETS SPECIFICATIONS

TECHNICIAN



RUN NUMBER: 031403.1346;1

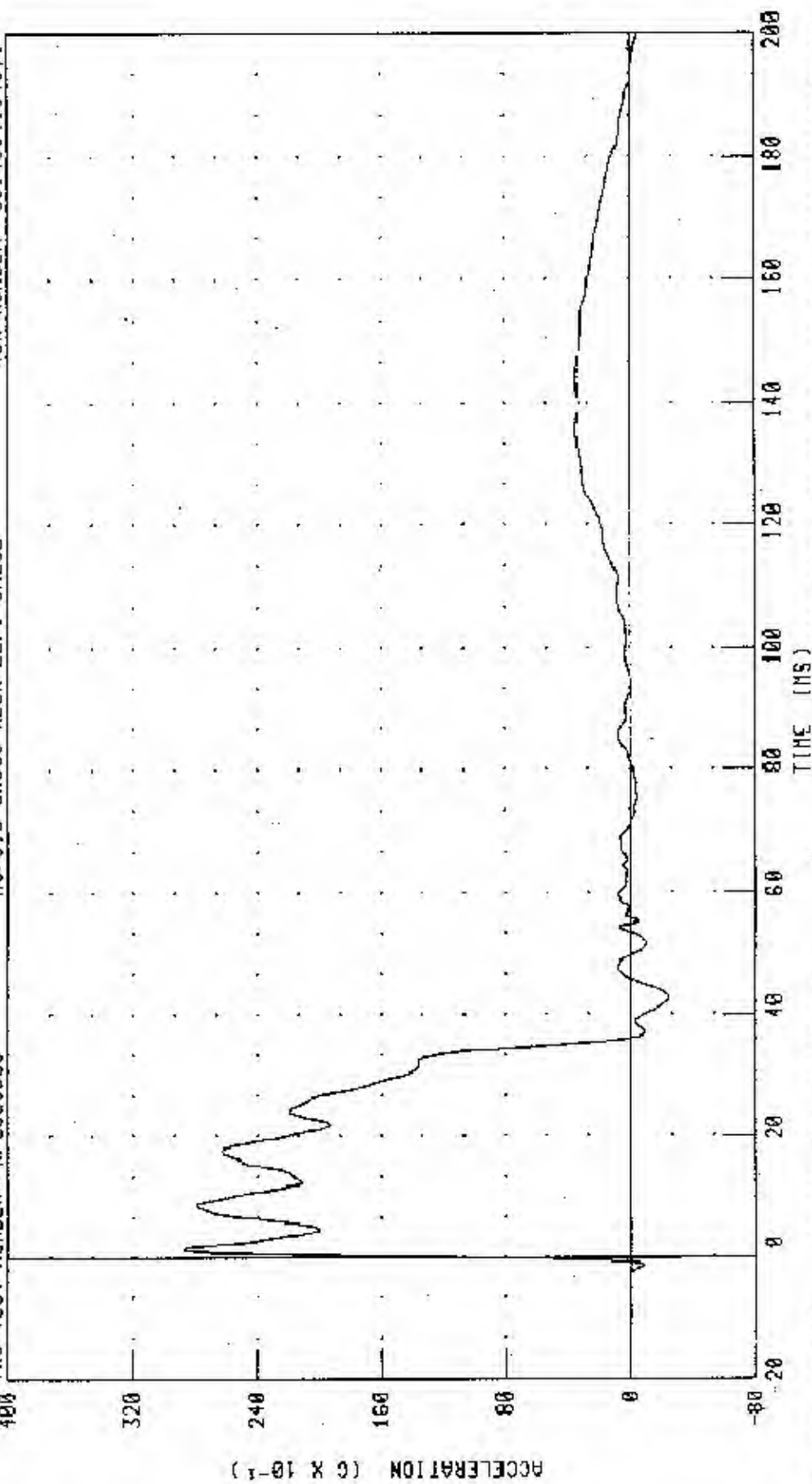
# H3/SID DUMMY CALIBRATION -- LEFT LATERAL NECK TEST

PENDULUM DECELERATION

TRC TEST NUMBER = NFL06505C

H3/SID SN065 NECK LEFT CAL05

RUN NUMBER: 031403.1348.1



PEAK DATA: 28.72 G 1.36 MS; -2.44 G 42.88 MS

CHANNEL: PENXC FILTER: CH. CLASS 180



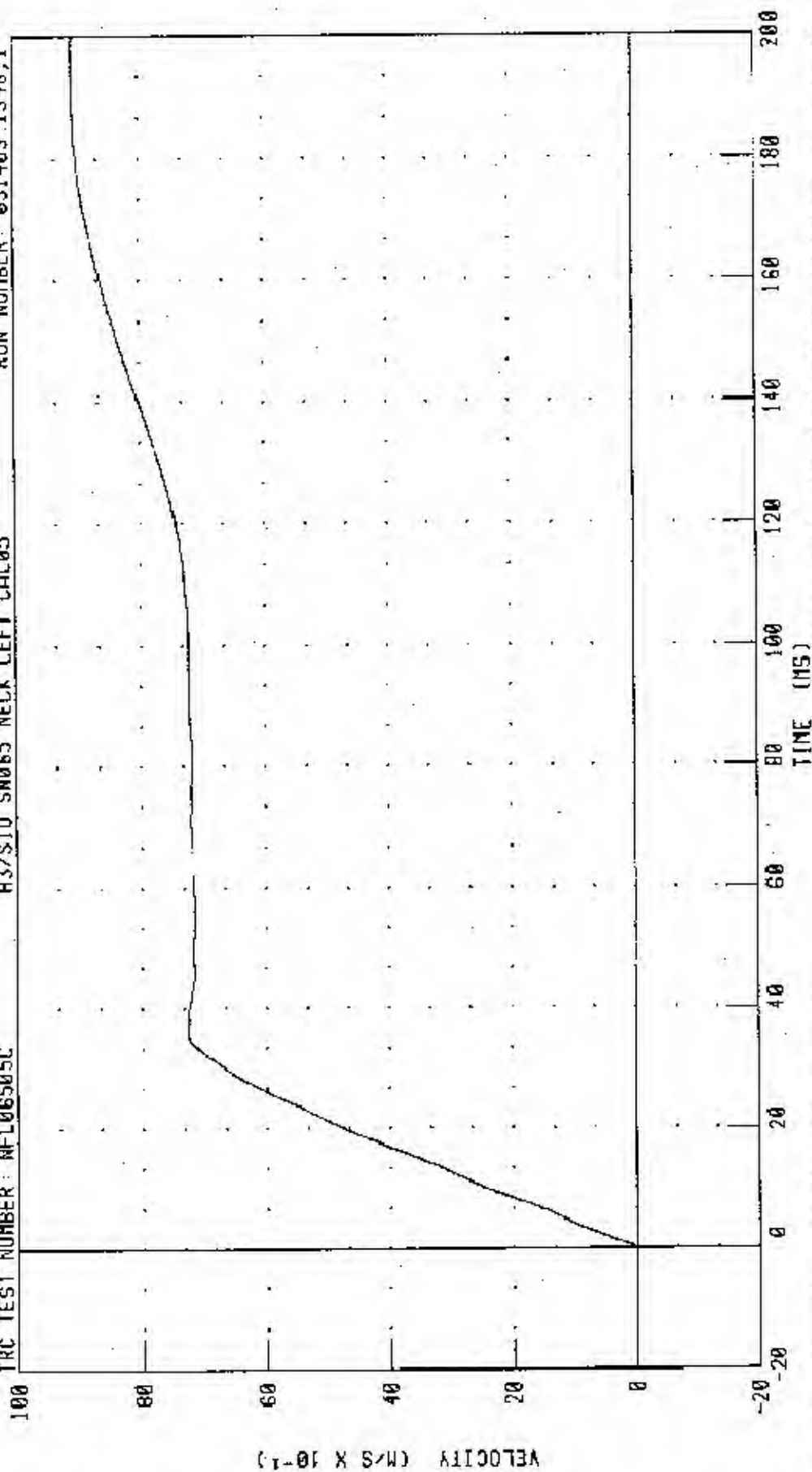
# H3/SID DUNNY CALIBRATION -- LEFT LATERAL NECK TEST

INTEGRATED PENDULUM VELOCITY

H3/SID SN065 NECK LEFT CAL05

TRC TEST NUMBER: NFL06505C

RUN NUMBER: 031403.1348;1



PEAK DATA: 9 08 M/S @ 192 00 MS; -0.01 M/S @ -0.00 MS

CHANNEL: PENXVI FILTER: CH. CLASS 180

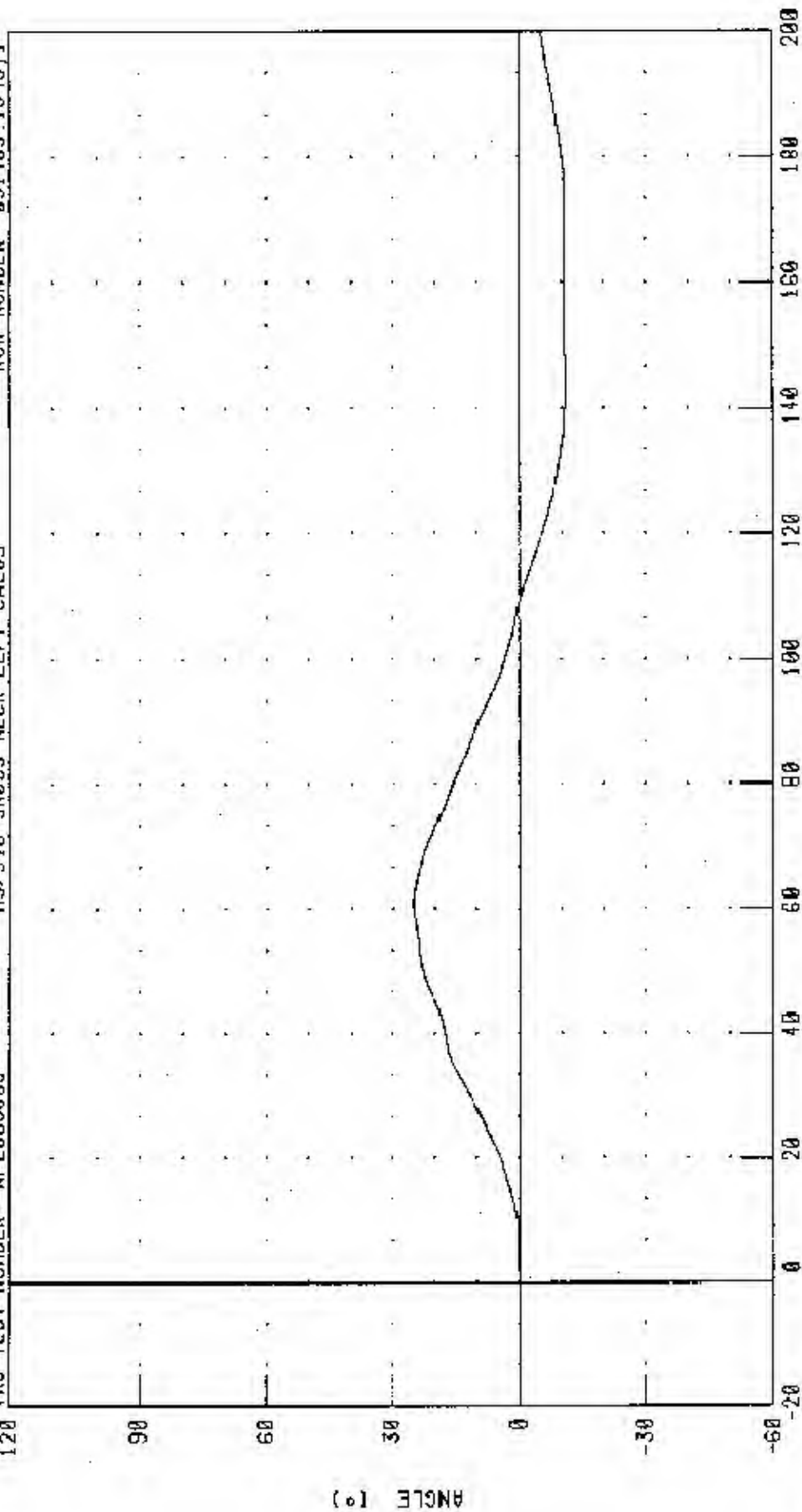
# H3/SID DUMMY CALIBRATION -- LEFT LATERAL NECK TEST

ROTATION ABOUT BASE OF NECK

TRC TEST NUMBER: NPL06505C

H3/SID SN055 NECK LEFT CAL05

RUN NUMBER: 031403.1348.1



CHANNEL: BETA FILTER: CH. CLASS 60

TIME (MS.)

PEAK DATA: 25 24 ° @ 60.96 MS; -11.02 ° @ 143.84 MS

# H3/S10 DUMMY CALIBRATION -- LEFT LATERAL NECK TEST

ROTATION ABOUT OCCIPITAL CONOYLE

H3/S10 SN065 NECK LEFT CAL05

RUN NUMBER: 031403.1348.1

TRC TEST NUMBER: NFL06505C

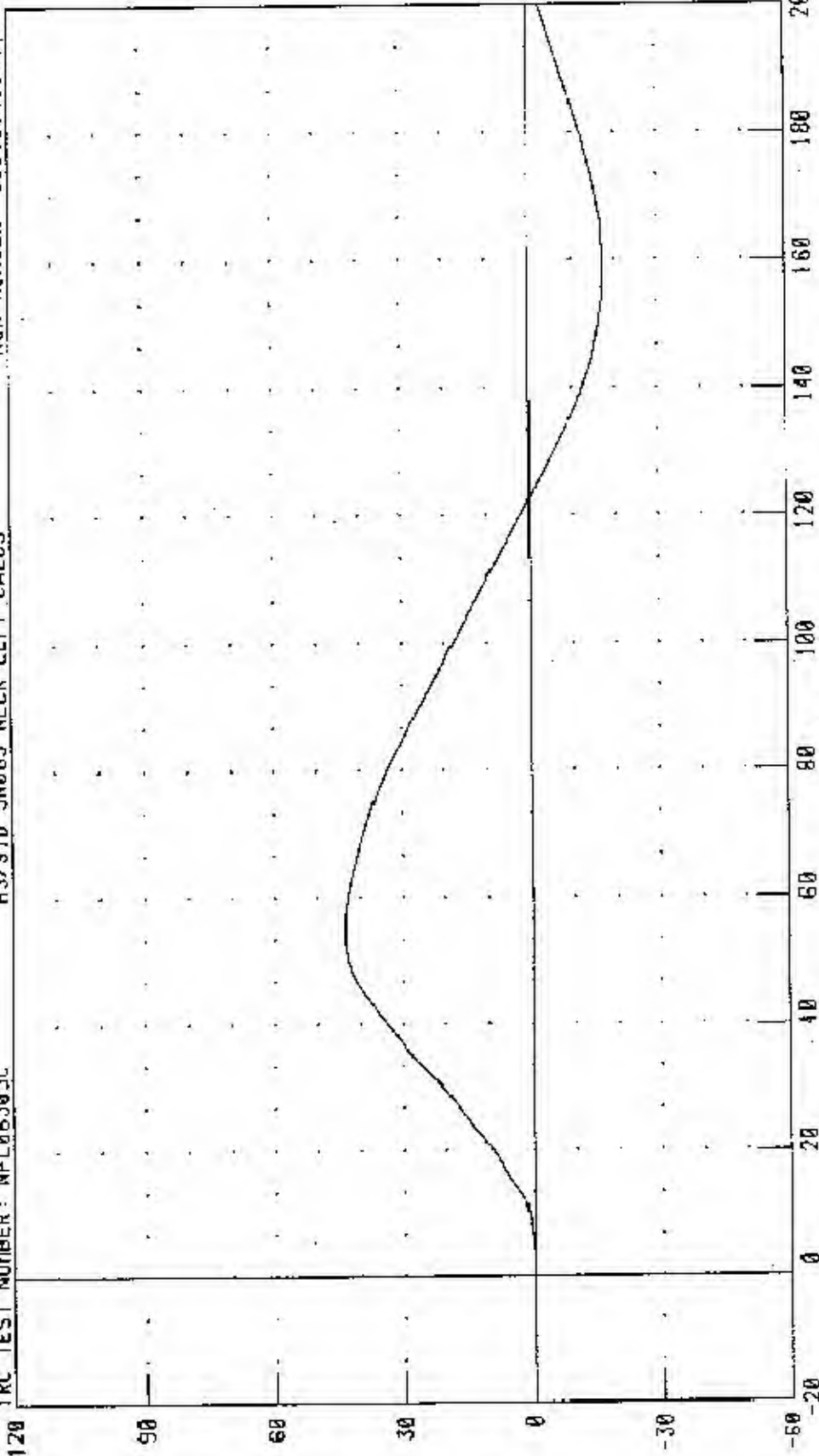
120

90

60

ANGLE (°)

C-48



TIME (MS)

PEAK DATA: 43.65 ° @ 54.80 MS; -17.55 ° @ 158.80 MS

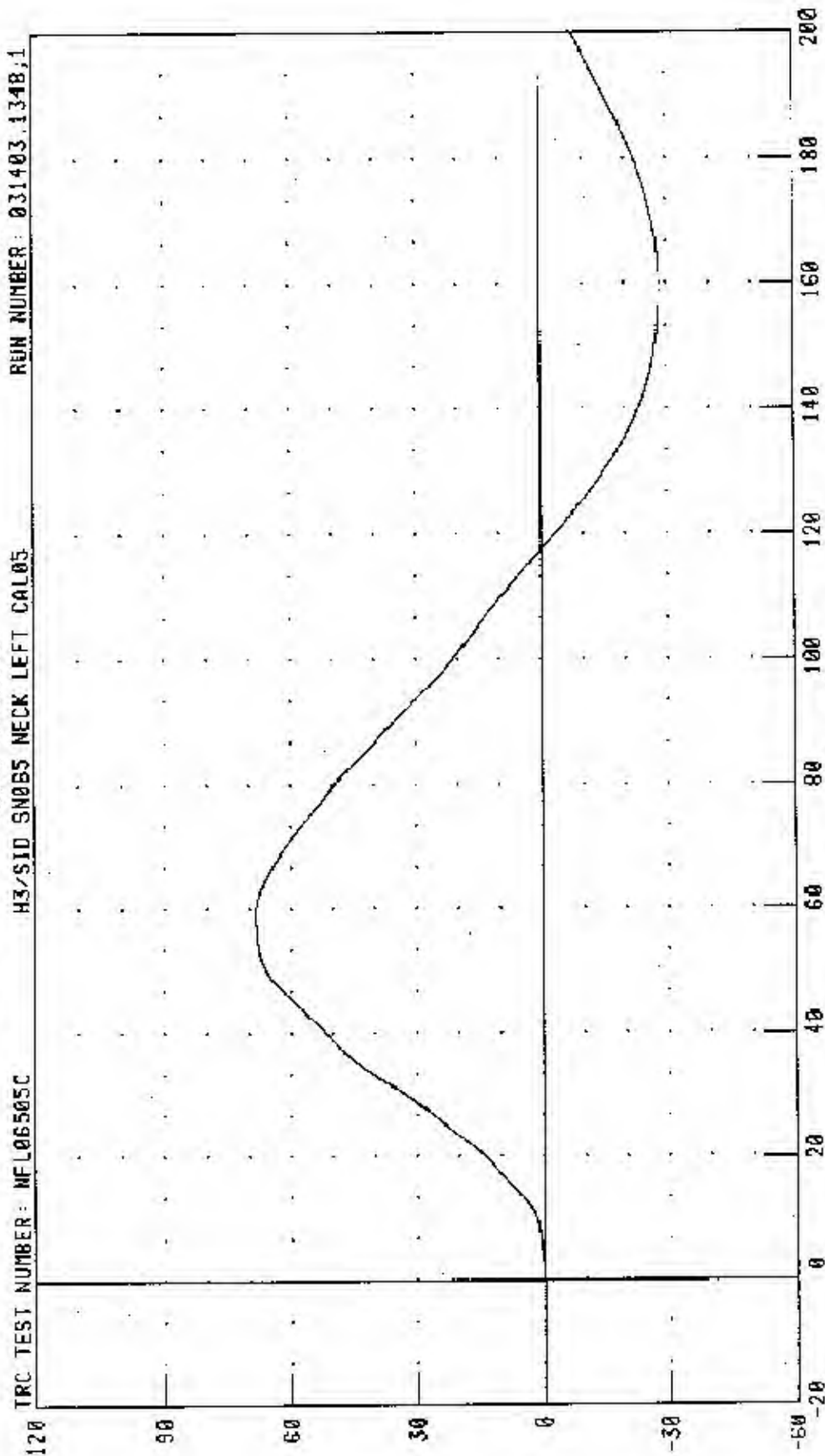
CHANNEL: THETA FILTER CH CLASS 60

030317-2

# H3/SID DUMMY CALIBRATION -- LEFT LATERAL NECK TEST

TOTAL ROTATION

TRC TEST NUMBER: MFL06505C H3/SID SN055 NECK LEFT CAL05 RUN NUMBER: 031403.134B;1



TIME (MS)

PEAK DATA: 68.26 ° @ 58.98 MS, -20.20 ° @ 158.96 MS

CHANNEL: TOTAL FILTER: CH. CLASS 60

ANGLE (°)



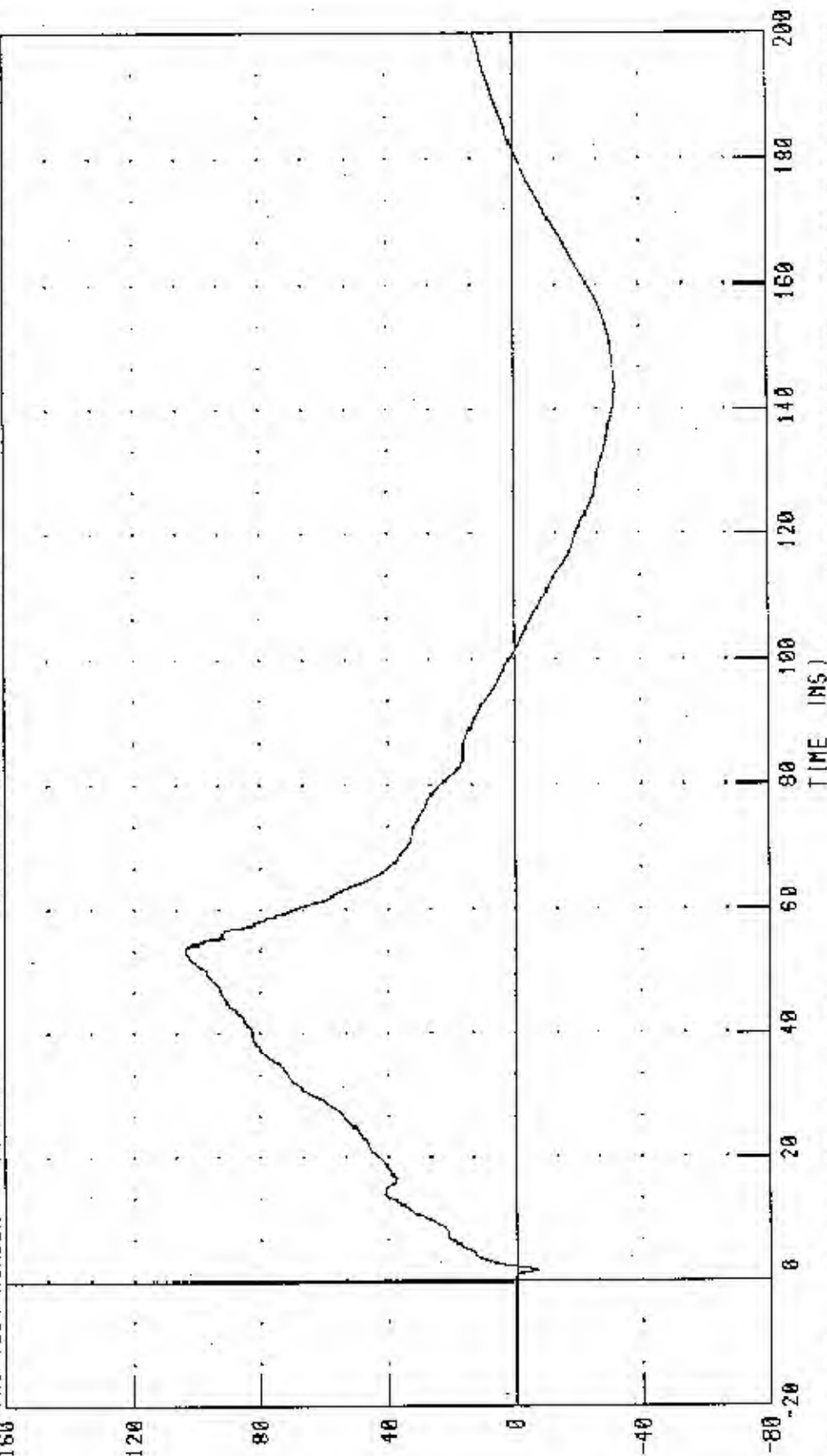
# H3/S10 DUMMY CALIBRATION -- LEFT LATERAL NECK TEST

NECK FORCE Y AXIS

TRC TEST NUMBER: MFL06505C

H3/S10 SN065 NECK LEFT CAL05

RUN NUMBER: 031403.1348.1



PEAK DATA 1036 67 N @ 53.92 MS; -325 63 N @ 143.36 MS

CHANNEL: NEKYF FILTER: CH. CLASS 1000

(101 X N) 33803

# H3/S10 DUNNY CALIBRATION -- LEFT LATERAL NECK TEST

NECK MOMENT X AXIS

RUN NUMBER: 031403.1348.1

H3/S10 SN055 NECK LEFT CAL05

TRC TEST NUMBER: NFL065050

160

120

80

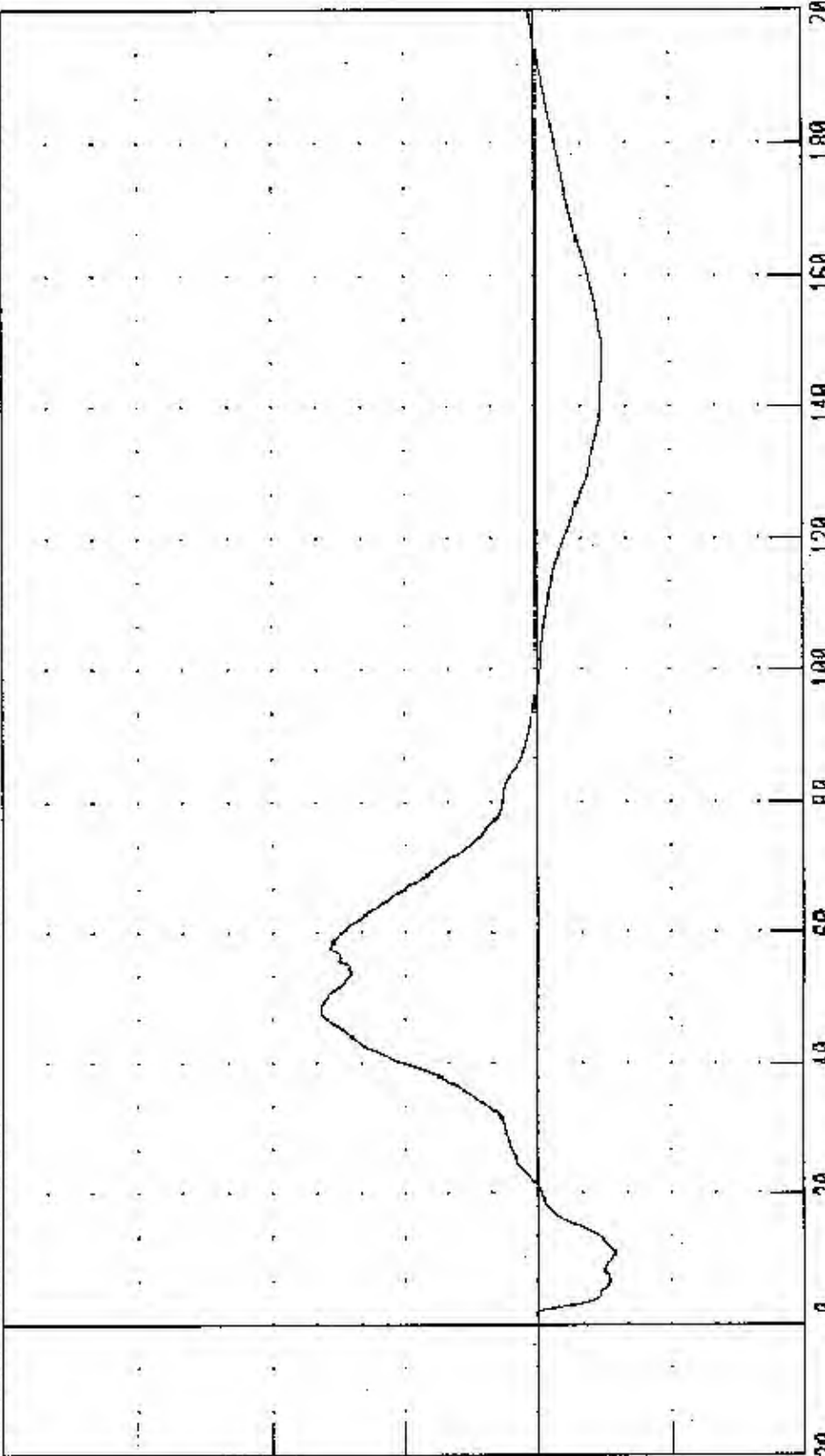
40

0

-40

-80

TORQUE (N·M)

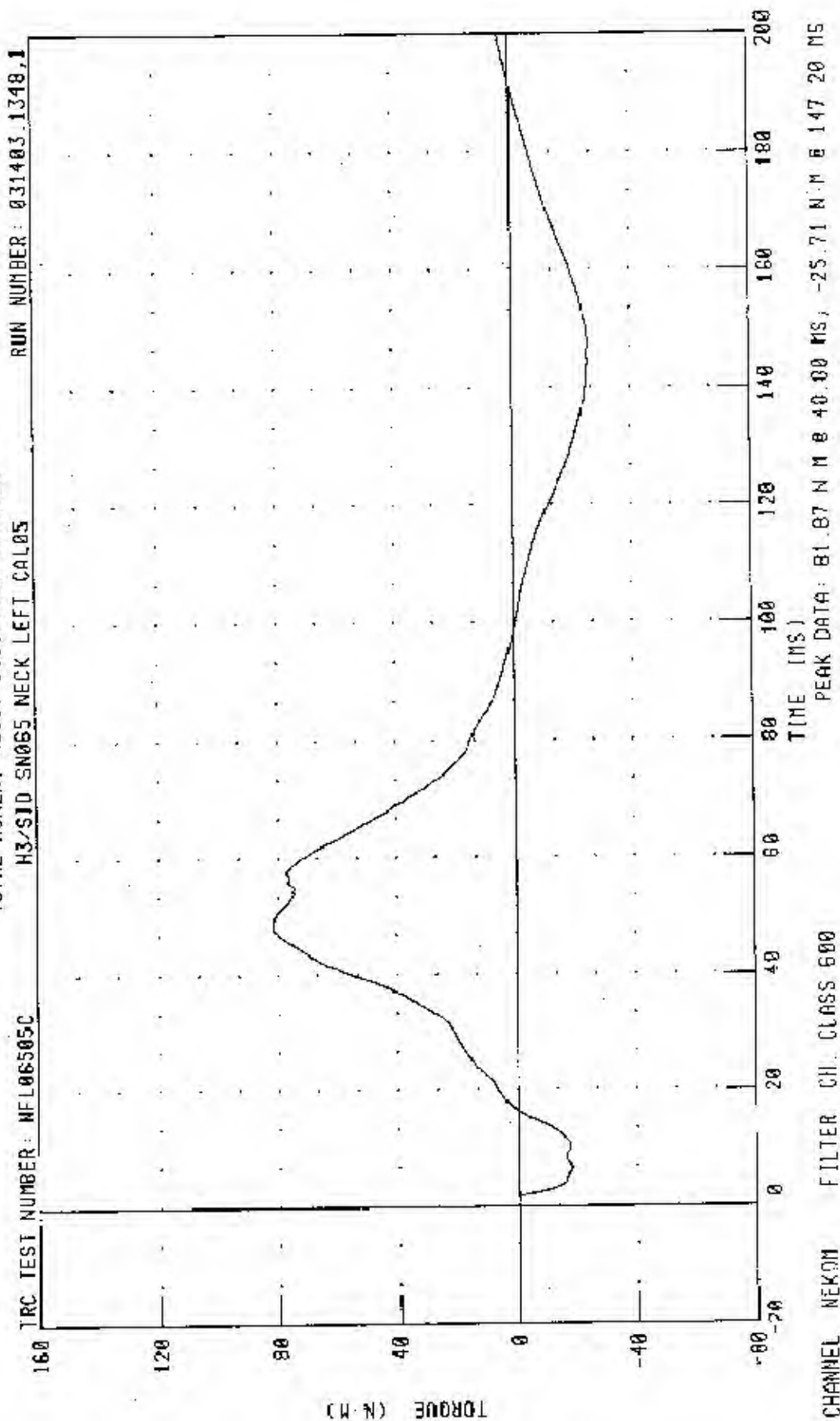


TIME (MS)

PEAK DATA: 65.17 N M @ 49.00 MS, -23.04 N M @ 11.04 MS

CHANNEL: NECKX1 FILTER: CH. CLASS 600

# H3/S10 DUMMY CALIBRATION -- LEFT LATERAL NECK TEST TOTAL MOMENT ABOUT OCCIPITAL CONDYLE



## TRANSPORTATION RESEARCH CENTER INC.

## LATERAL THORAX IMPACT TEST

## SIDE IMPACT DUMMY

14-MAR-03

## LEFT SIDE CONFIGURATION

TRC INC.

TEST NO: STL06505

572F STD SN065 L.THORAX CAL05

TEST PARAMETER	SPECIFICATION (ABSOLUTE VALUE)	TEST RESULTS
TEMPERATURE	18.9 - 25.5 C	21.7 DEG. C
RELATIVE HUMIDITY	10 - 70 %	44.0 %
PENDULUM VELOCITY	4.21 - 4.33 M/S	4.28 M/S
PEAK ACCELERATION: UPPER RIB BAR	37 - 46 G	40.7 G
PEAK ACCELERATION: LOWER RIB BAR	37 - 46 G	39.8 G
PEAK ACCELERATION: LOWER THORACIC SPINE	15 - 22 G	19.4 G

TEST MEETS SPECIFICATIONS

TECHNICIAN 

RUN NUMBER: 031703.1304;1



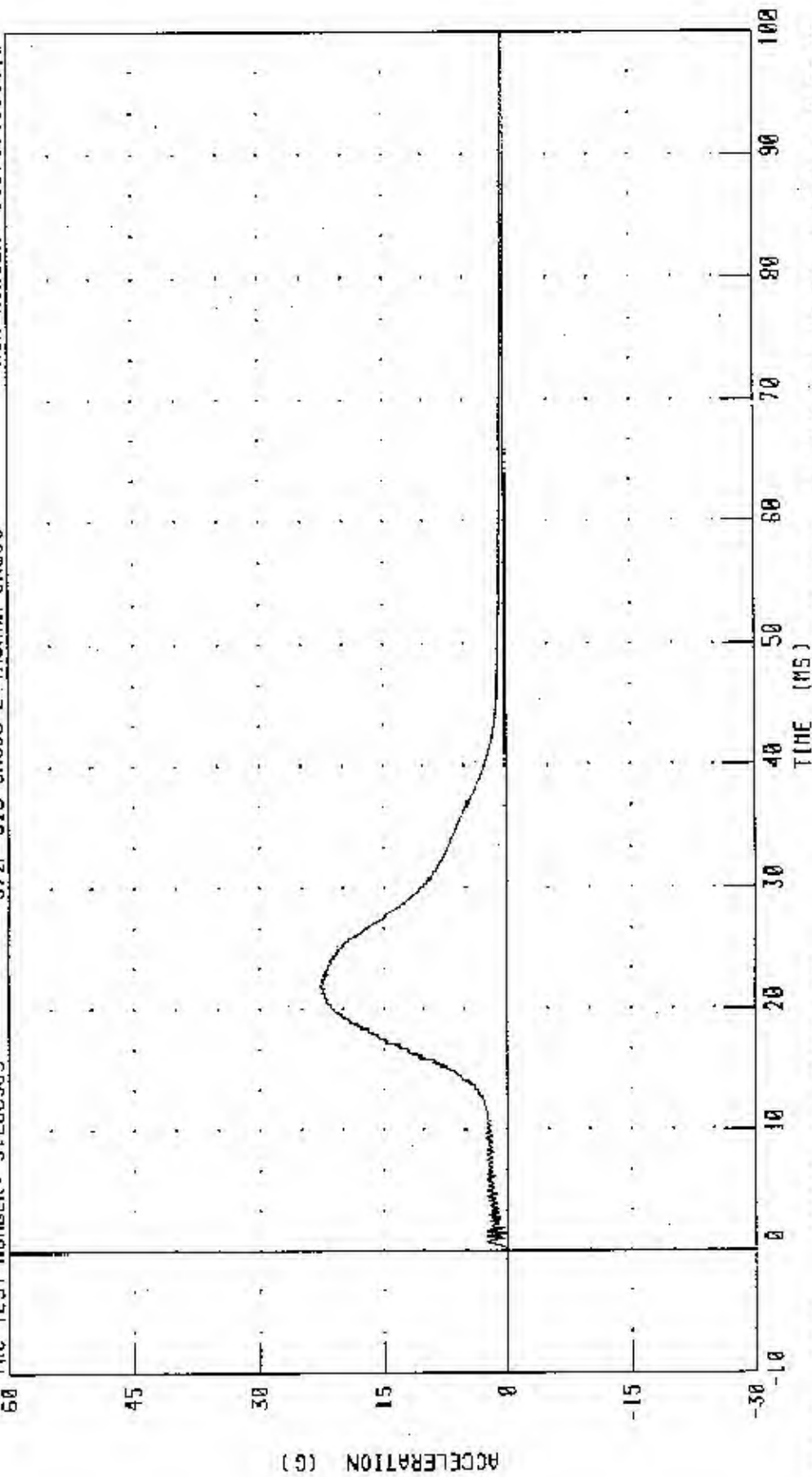
PART 572-F S.I.D. THORAX CALIBRATION - (LEFT SIDE IMPACT)

PENDULUM DECELERATION

TRC TEST NUMBER: SEL06505

572F SID SN065 L THORAX CAL05

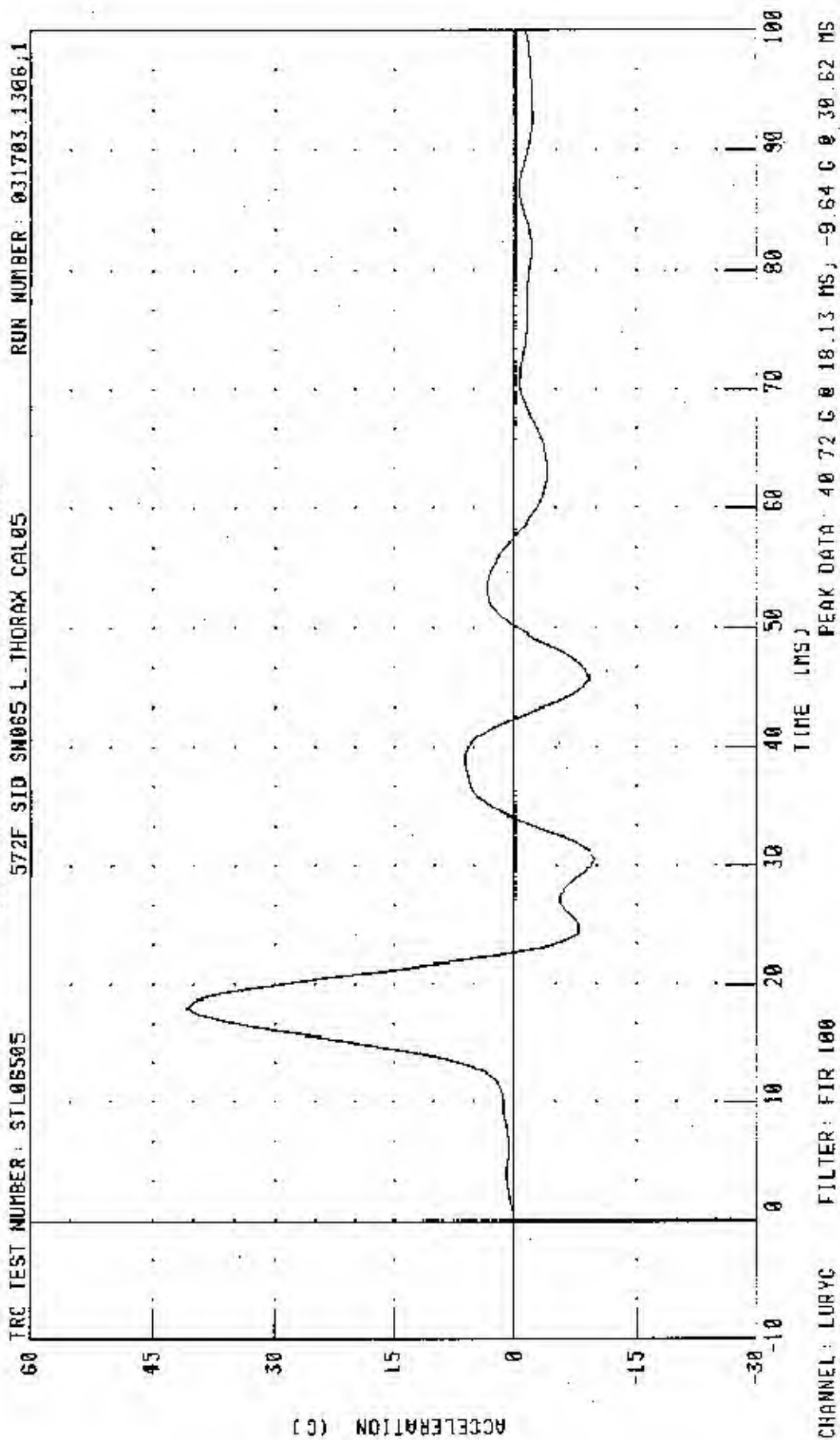
RUN NUMBER: 031703.1306.1



PEAK DATA: 22.70 G @ 21.92 MS, 0.02 G @ -9.52 MS

CHANNEL: PENXG FILTER: CH. CLASS 1000

PART 572-F S.I.D. THORAX CALIBRATION - (LEFT SIDE IMPACT)  
 LEFT UPPER RIB ACCELERATION Y AXIS



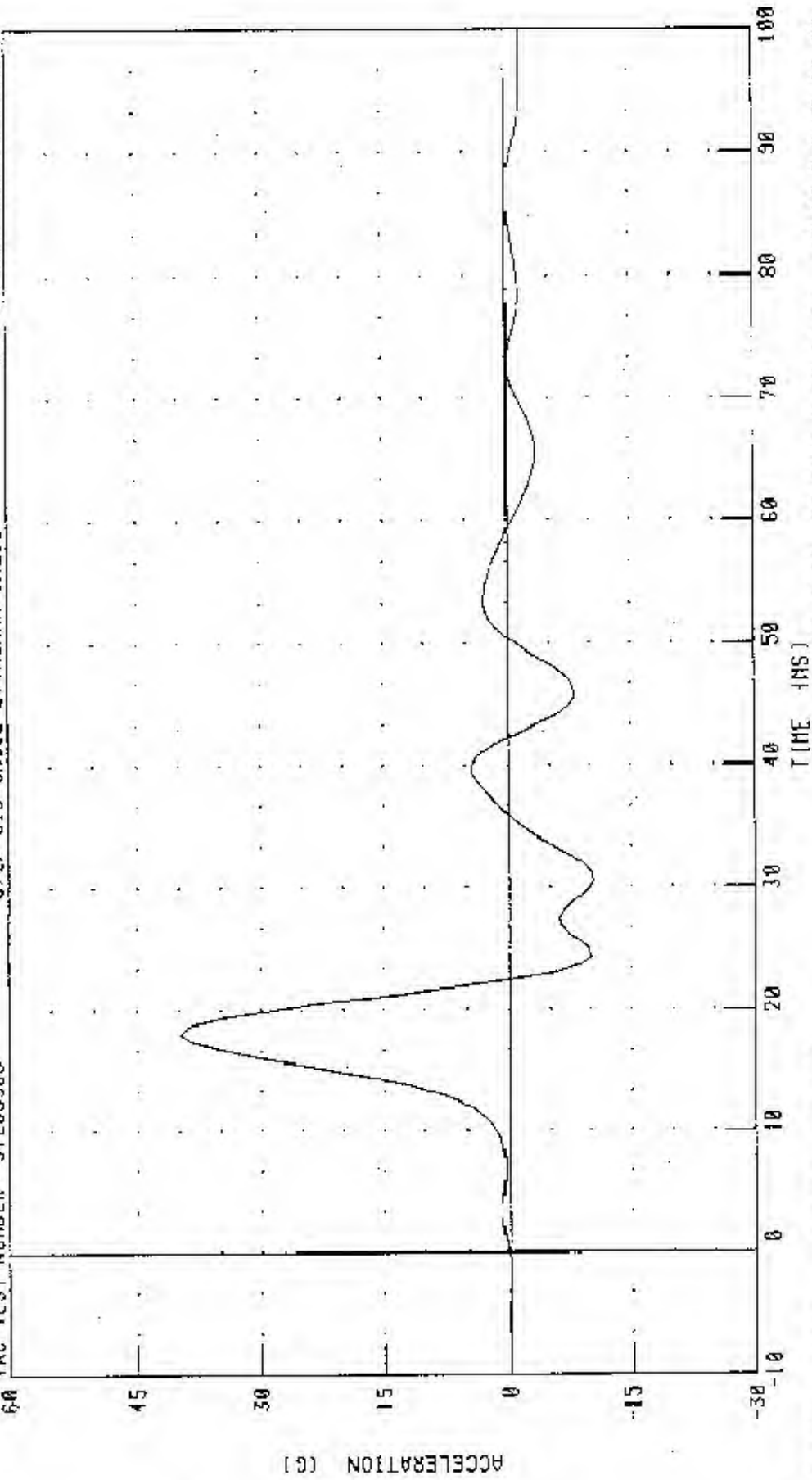
PART 572-F S.I.D. THORAX CALIBRATION - (LEFT SIDE IMPACT)

LEFT LOWER RIB ACCELERATION Y AXIS

TRC TEST NUMBER - STL06585

572F SID SN065 L THORAX CAL05

RUN NUMBER - 031703.1306.1



CHANNEL: LLRYG FILTER: FJR 100

PEAK DATA: 39.81 G @ 18.13 MS; -10.39 G @ 30.67 MS

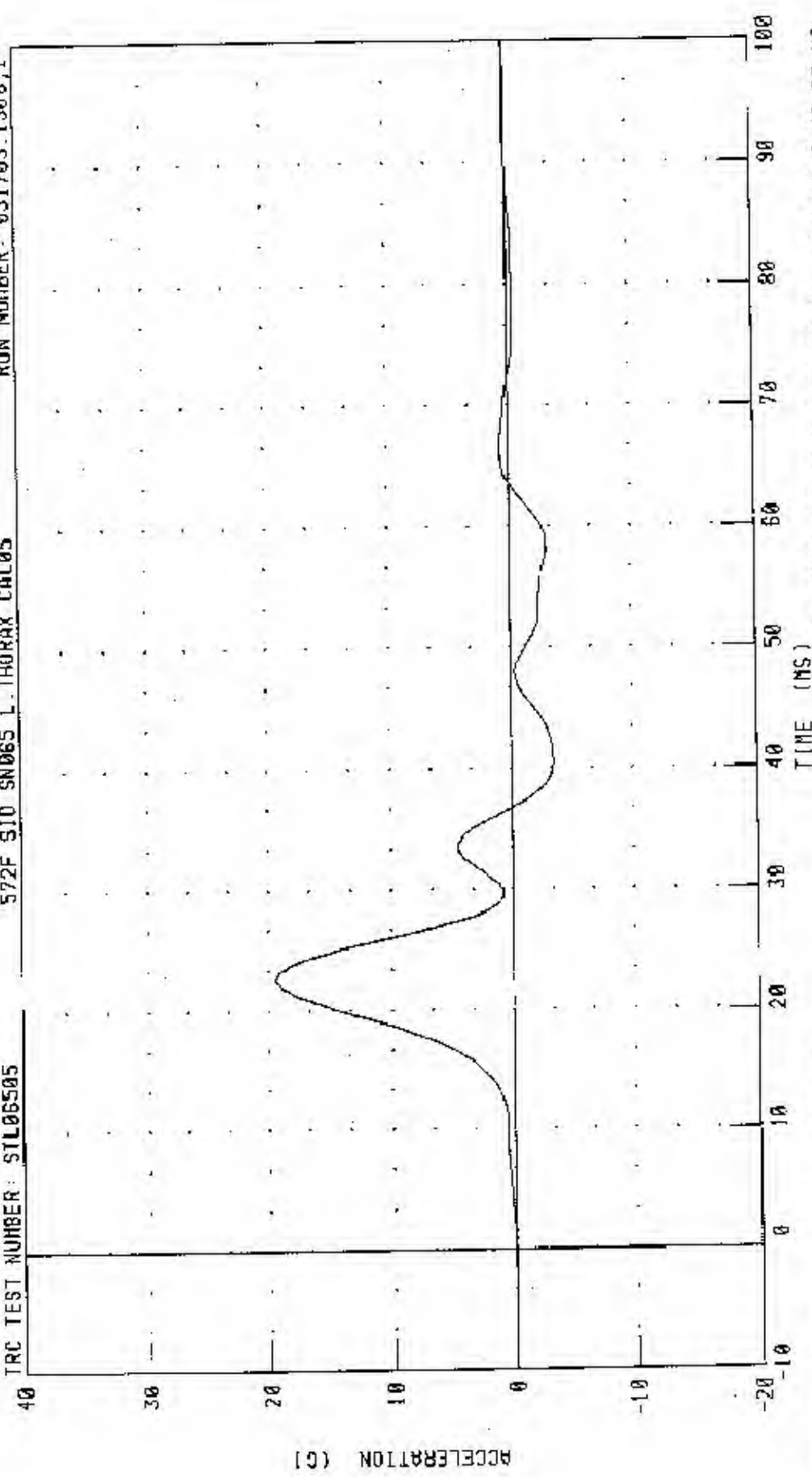
# PART 572-F S.I.D. THORAX CALIBRATION - (LEFT SIDE IMPACT)

LOWER SPINF ACCELERATION Y AXIS

RUN NUMBER: 031703.1306;1

TRC TEST NUMBER: STL06505

572F S10 SN065 L THORAX CAL05



PEAK DATA: 19.41 G @ 22.50 MS; -3.46 G @ 40.63 MS

FILTER: FIR 100

CHANNEL: T12YC



# Transportation Research Center Inc.

572B Abdomen Compression Test

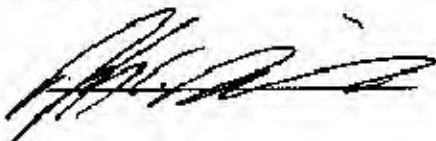
HIII SID Serial No. 065 Calibration No. 05 - 1

Test Date 02/27/2003

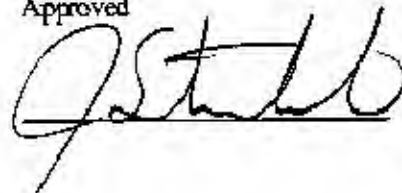
Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.5 °C	21.7 °C	Yes
Relative Humidity	10 - 70 %	30 %	Yes
Displacement Rate	6.35 - 8.89 mm/s	7.1 - 8.0 mm/s	Yes
Data Within Required Corridor	Yes	Yes	Yes

Comments:

Technician



Approved



03.17.2003 13:09:40 107

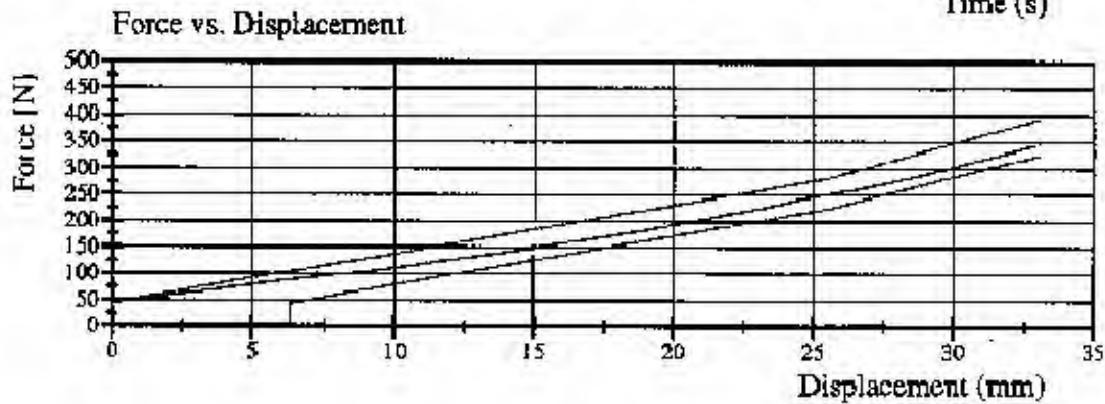
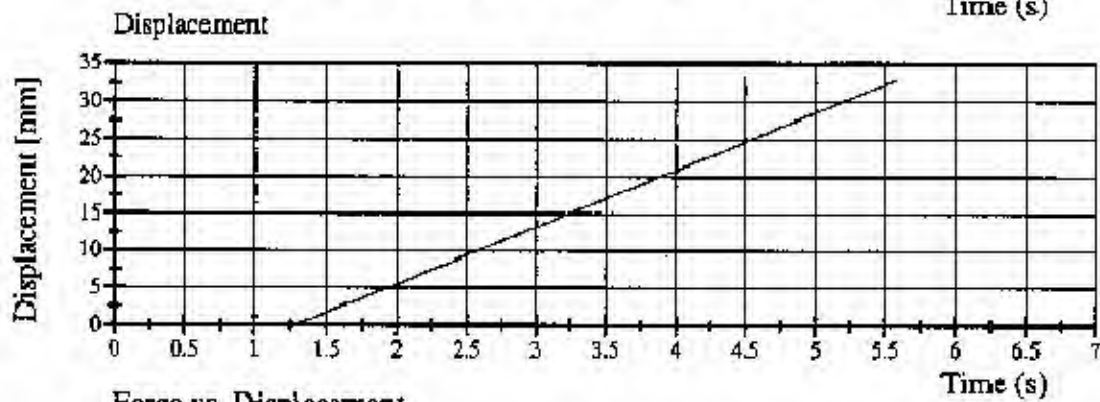
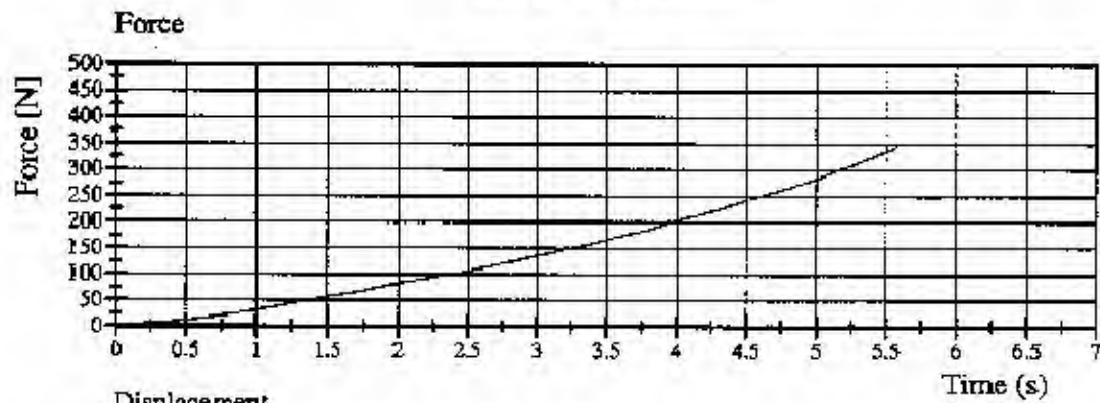


# Transportation Research Center Inc.

572B Abdomen Compression Test

HIH SED Serial No. 065 Calibration No. 05 - 1

Test Date 02/27/2003



TRANSPORTATION RESEARCH CENTER INC.

THORACIC SHOCK ABSORBER TESTS

SIDE IMPACT DUMMY

03-FEB-03

TRC INC.

572F SN066 DAMPER TEST CAL02

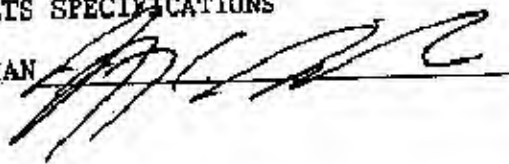
TEST NUMBERS: DP06602A, DP06602B, DP06602C

TEST PARAMETER		SPECIFICATION	TEST RESULTS
TEMPERATURE		18.9 - 25.5 C	21.7 DEG. C
RELATIVE HUMIDITY		10 - 70 %	46.0 %
VELOCITY 2.70 M/S	FORCE	667 - 925 N	797 N
	DISPLACEMENT	29.7 - 34.5 MM	29.9 MM
VELOCITY 4.26 M/S	FORCE	1733 - 2100 N	1877 N
	DISPLACEMENT	31.6 - 37.2 MM	35.9 MM
VELOCITY 6.07 M/S	FORCE	3703 - 4402 N	4387 N
	DISPLACEMENT	33.3 - 39.5 MM	37.8 MM

DAMPER SETTING = 5.0

TEST MEETS SPECIFICATIONS

TECHNICIAN



RUN NUMBER: 020303.0731;1

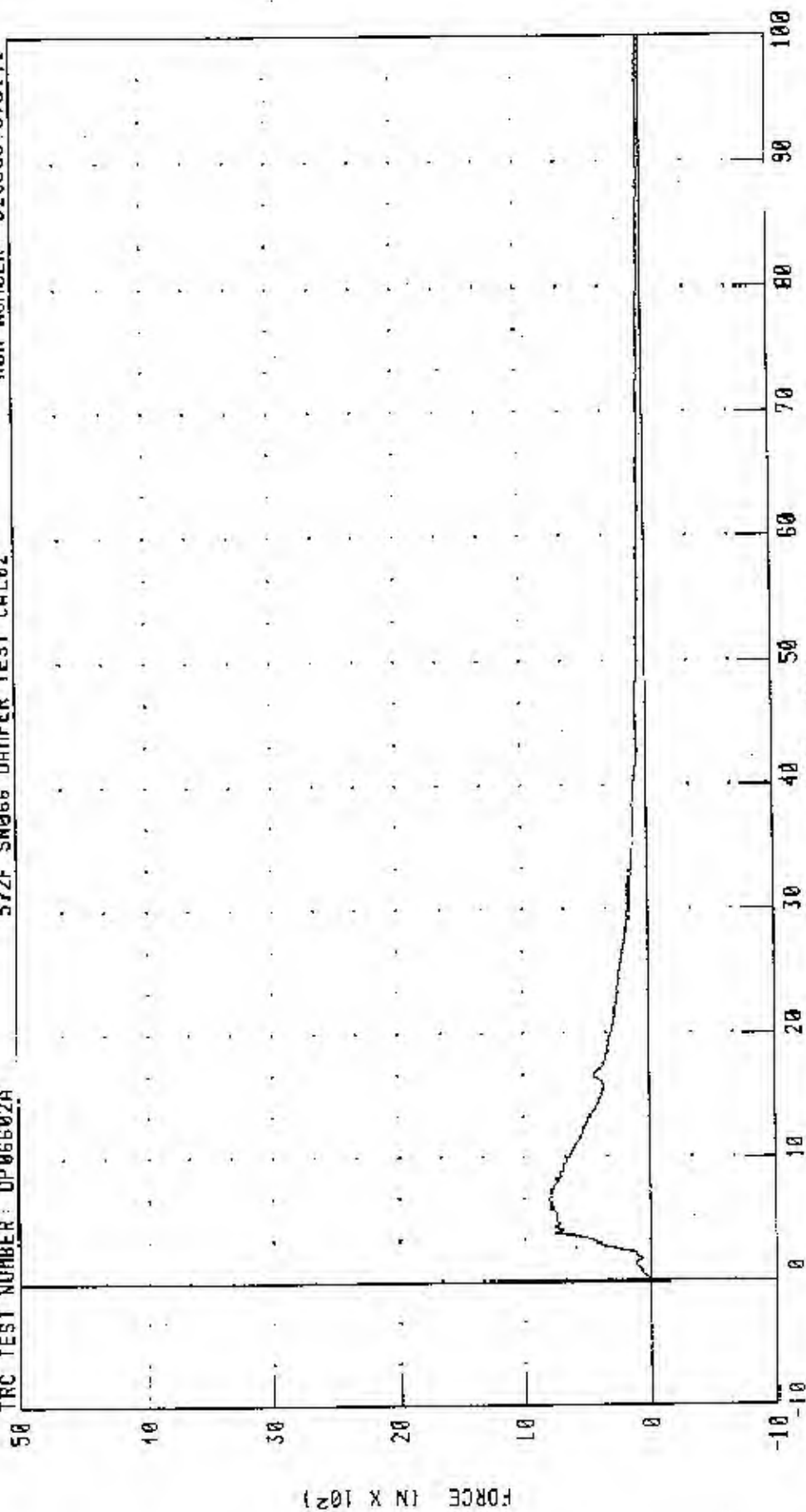
# PART 572-F S.I.D. THORACIC SHOCK ABSORBER CALIBRATION (3.0 N/SEC)

SHOCK ABSORBER RESISTIVE FORCE

572F SN066 DAMPER TEST CAL02

TRC TEST NUMBER: DP06602A

RUN NUMBER: 020303.0731.1



TIME (MS)

PEAK DATA = 736.77 N @ 6.48 MS, -2.09 N @ -10.00 MS

CHANNEL: DAMPF FILTER: CH. CLASS 1000

FORCE (N X 10<sup>2</sup>)



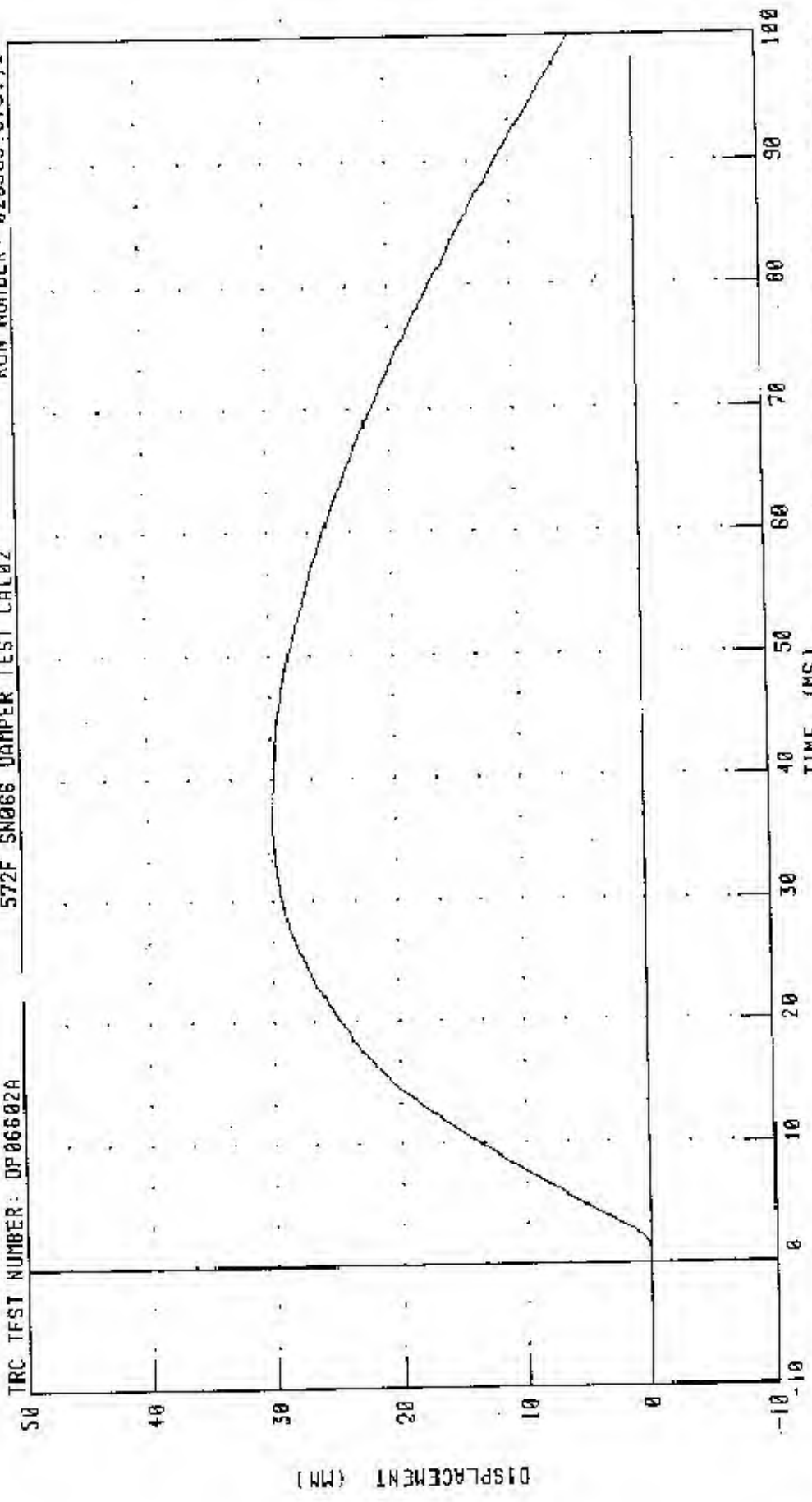
PART 572-F S.I.D. THORACIC SHOCK ABSORBER CALIBRATION (3.0 N/SEC)

SHOCK ABSORBER DISPLACEMENT

572F SN066 DAMPER TEST CAL02

RUN NUMBER: 020303 0731.1

TRC TEST NUMBER: DP06602A



PEAK DATA: 29.94 MM @ 36.24 MS; 0.00 MM @ -4.40 MS

CHANNEL: CSTYD FILTER: CH CLASS 1000

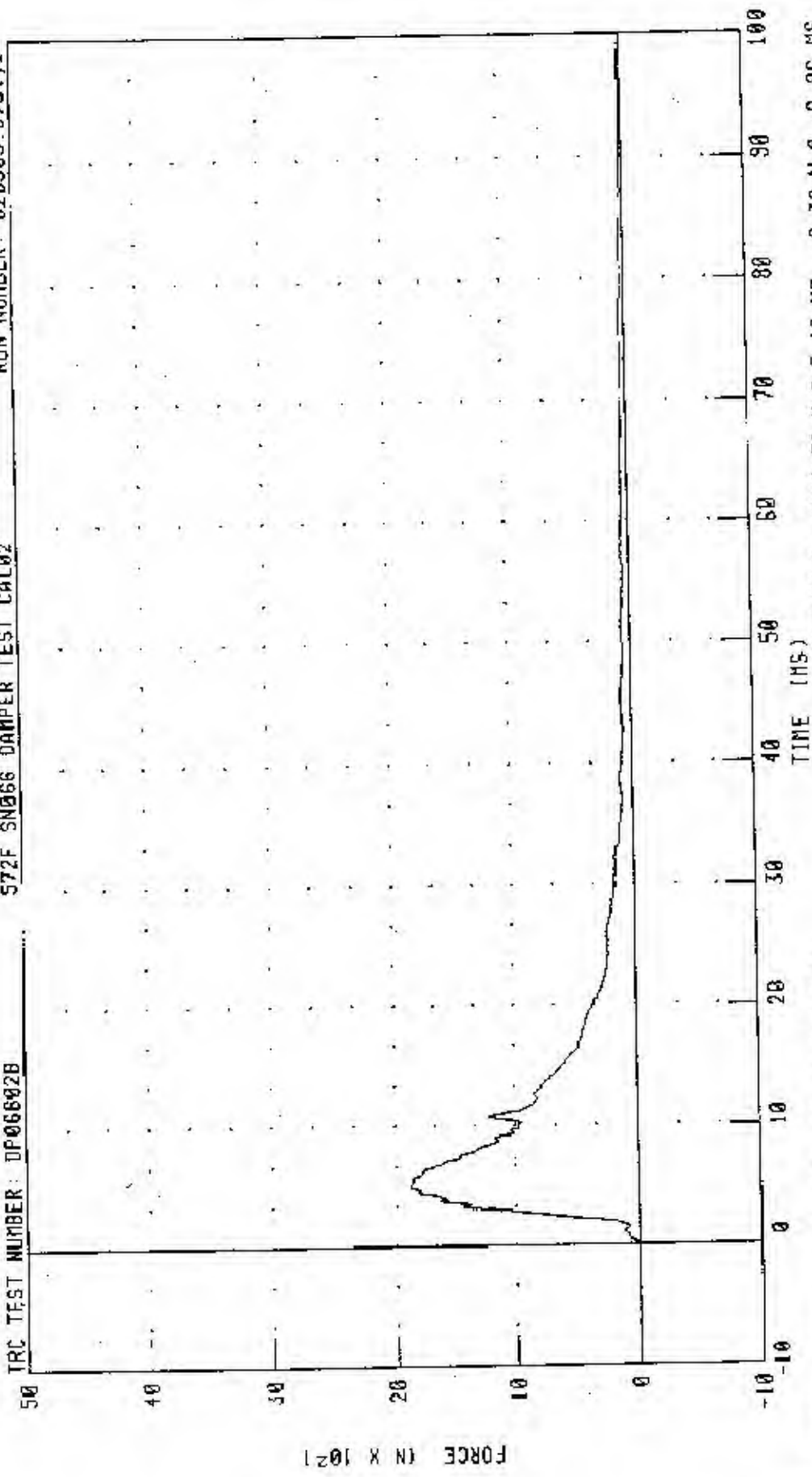
# PART 572-F S.I.D. THORACIC SHOCK ABSORBER CALIBRATION (4.3 N/SEC)

SHOCK ABSORBER RESISTIVE FORCE

572F SN066 DAMPER TEST CAL02

TRC TEST NUMBER: DP06602B

RUN NUMBER: 020303.0731.1



PEAK DATA: 1876.76 N @ 5.12 MS; -2.32 N @ -8.96 MS

CHANNEL: 001PF FILTER: CH. CLASS 1000

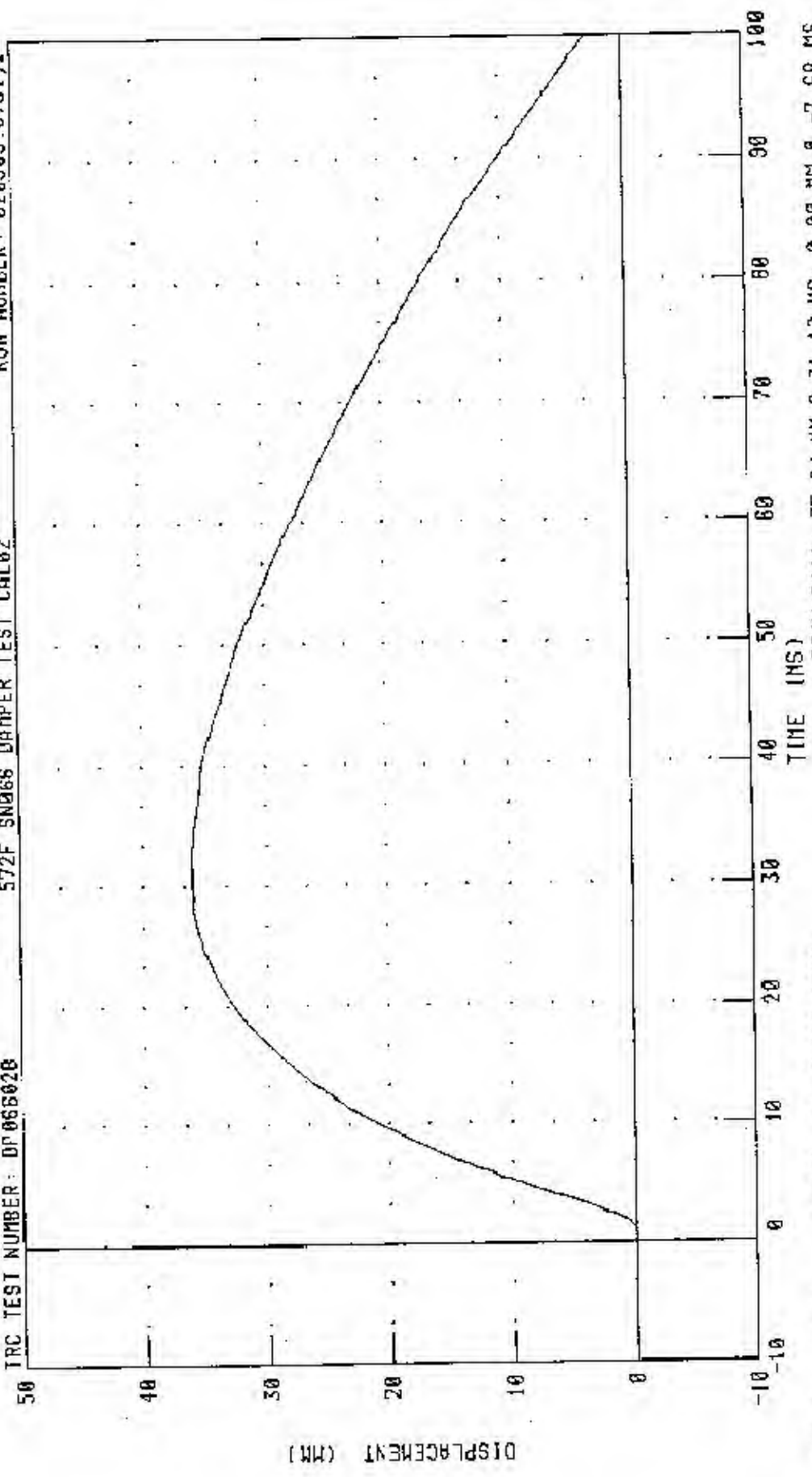
PART 572-F S.I.D. THORACIC SHOCK ABSORBER CALIBRATION (4.3 M/SEC)

SHOCK ABSORBER DISPLACEMENT

572F SN068 DAMPER TEST CAL02

RUN NUMBER: 020303.0731.1

TRC TEST NUMBER: DP068028



PEAK DATA: 35.94 MM @ 31.12 MS; 0.00 MM @ -7.60 MS

CHANNEL: CSTYD FILTER: CH CLASS 1000

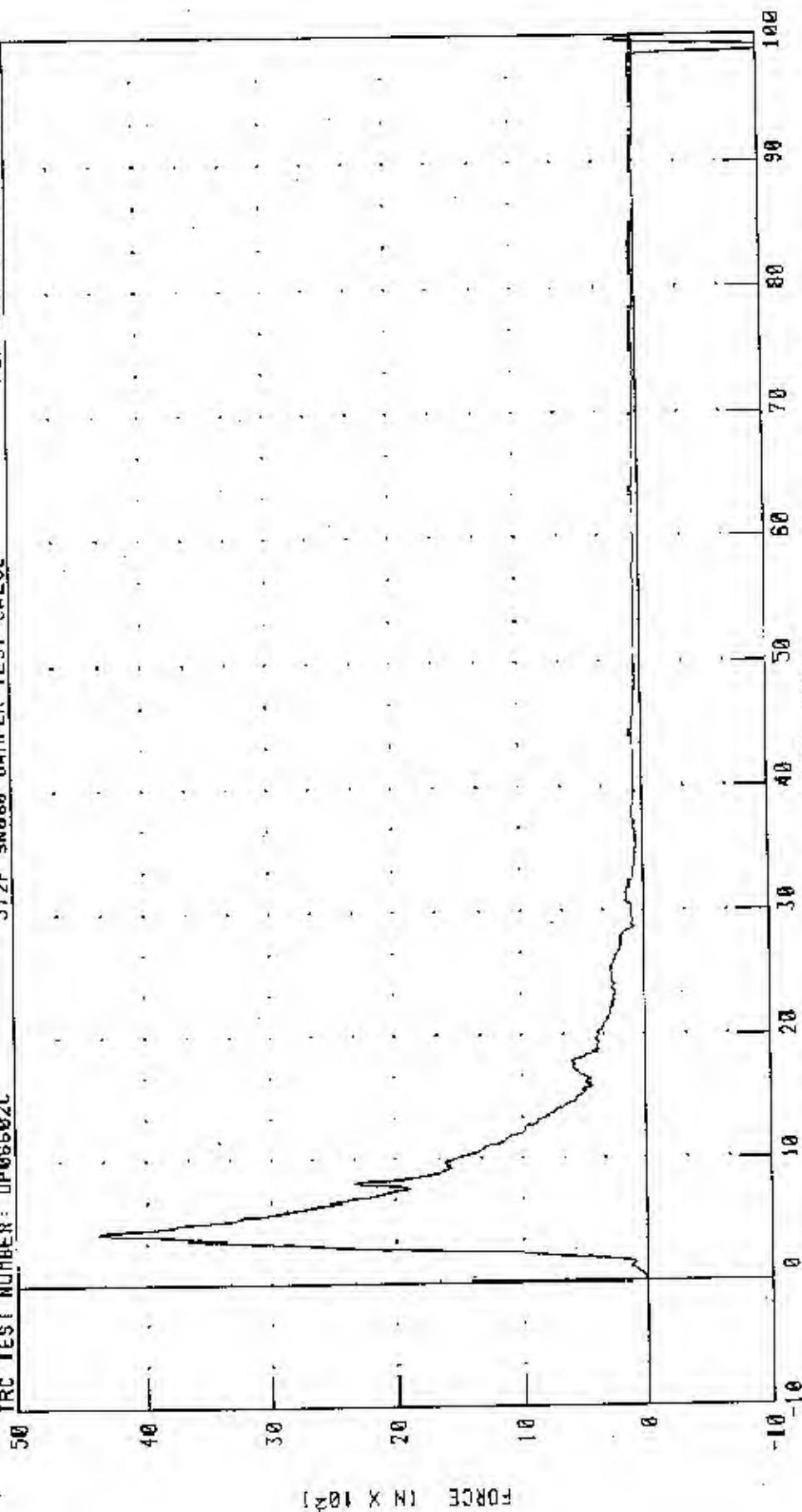
PART 572-F S.I.D. THORACIC SHOCK ABSORBER CALIBRATION (6.1 N/SEC)

SHOCK ABSORBER RESISTIVE FORCE

572F SN066 DAMPER TEST CAL02

RUN NUMBER: 020303 0732.1

IRC TEST NUMBER: DP06602C



TIME (MS)

PEAK DATA: 4387.36 N @ 4.16 MS; -1635.66 N @ 98.88 MS

CHANNEL: DAMPF FILTER: CH. CLASS 1000



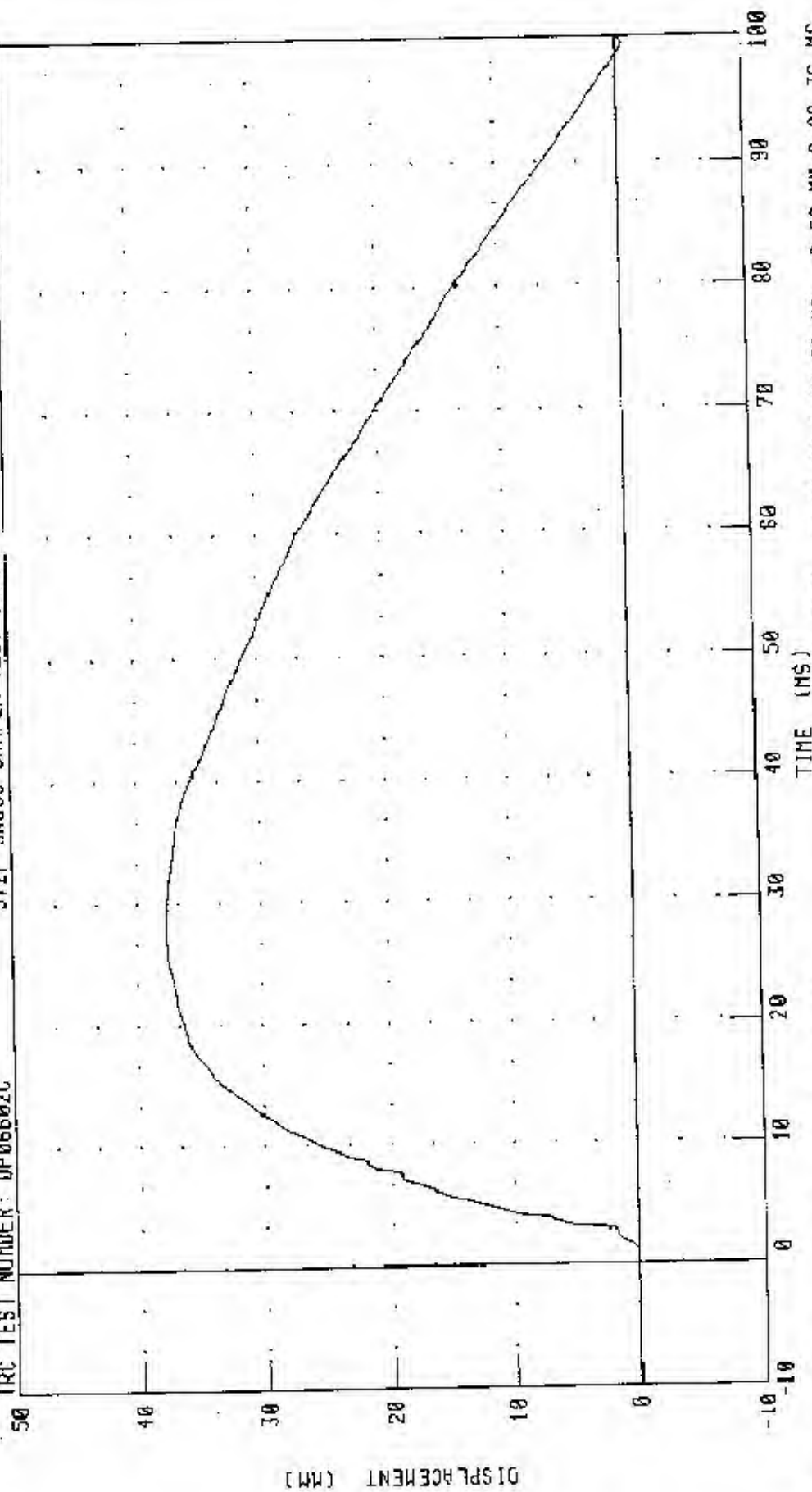
PART 572-F S.I.D. THORACIC SHOCK ABSORBER CALIBRATION (6.1 M/SEC)

SHOCK ABSORBER DISPLACEMENT

572F SN066 DAMPER TEST CAL02

RUN NUMBER: 020303.0732.1

TRC TEST NUMBER: DP06602C



PEAK DATA: 37.76 MM @ 27.76 MS; -0.52 MM @ 99.36 MS

CHANNEL: CSTYD FILTER: CH. CLASS 1000

TRANSPORTATION RESEARCH CENTER INC.

LUMBAR FLEXION TEST

SID PART 572B

CAL DATE: 27-Feb-03

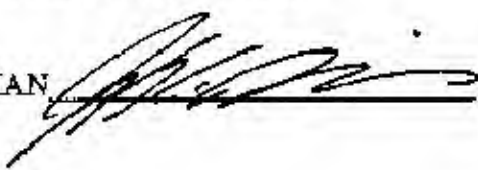
TRC, INC.

TEST NO: 065C05TF1

572B SN 065 TORSO FLEX CAL 05

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE	18.9 - 25.6° C	21.1 °C
RELATIVE HUMIDITY	10 - 70 %	30 %
FORCE AT 0 DEG. FLEXION	-27 - 27 N	0 N
FORCE AT 20 DEG OF FLEXION	98 - 151 N	111.2 N
FORCE AT 30 DEG OF FLEXION	151 - 205 N	177.9 N
FORCE AT 40 DEG OF FLEXION	205 - 258 N	218.0 N
NET RETURN ANGLE AFTER 3 MINUTES	< 12 °	6 °

TEST MEETS SPECIFICATIONS

TECHNICIAN 

TRANSPORTATION RESEARCH CENTER INC.

LATERAL PELVIS IMPACT TEST

SIDE IMPACT DUMMY

14-MAR-03

LEFT SIDE CONFIGURATION

TRC INC.

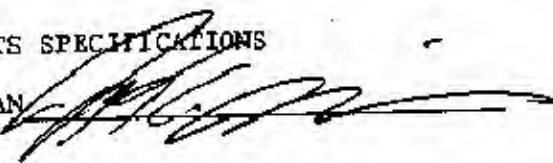
TEST NO: SPL06505

572F SN065 LEFT PELVIS CAL05

TEST PARAMETER	SPECIFICATION (ABSOLUTE VALUE)	TEST RESULTS
TEMPERATURE	18.9 - 25.5 C	21.7 DEG. C
RELATIVE HUMIDITY	10 - 70 %	44.0 %
PENDULUM VELOCITY	4.21 - 4.33 M/S	4.28 M/S
PEAK PELVIC ACCELERATION	40 - 60 G	52.1 G
TIME ABOVE 20 G LEVEL	3 - 7 MS	6.0 MS
IS ACCELERATION CURVE UNIMODAL?	YES	YES

TEST MEETS SPECIFICATIONS

TECHNICIAN



RUN NUMBER: 031703.1305;1

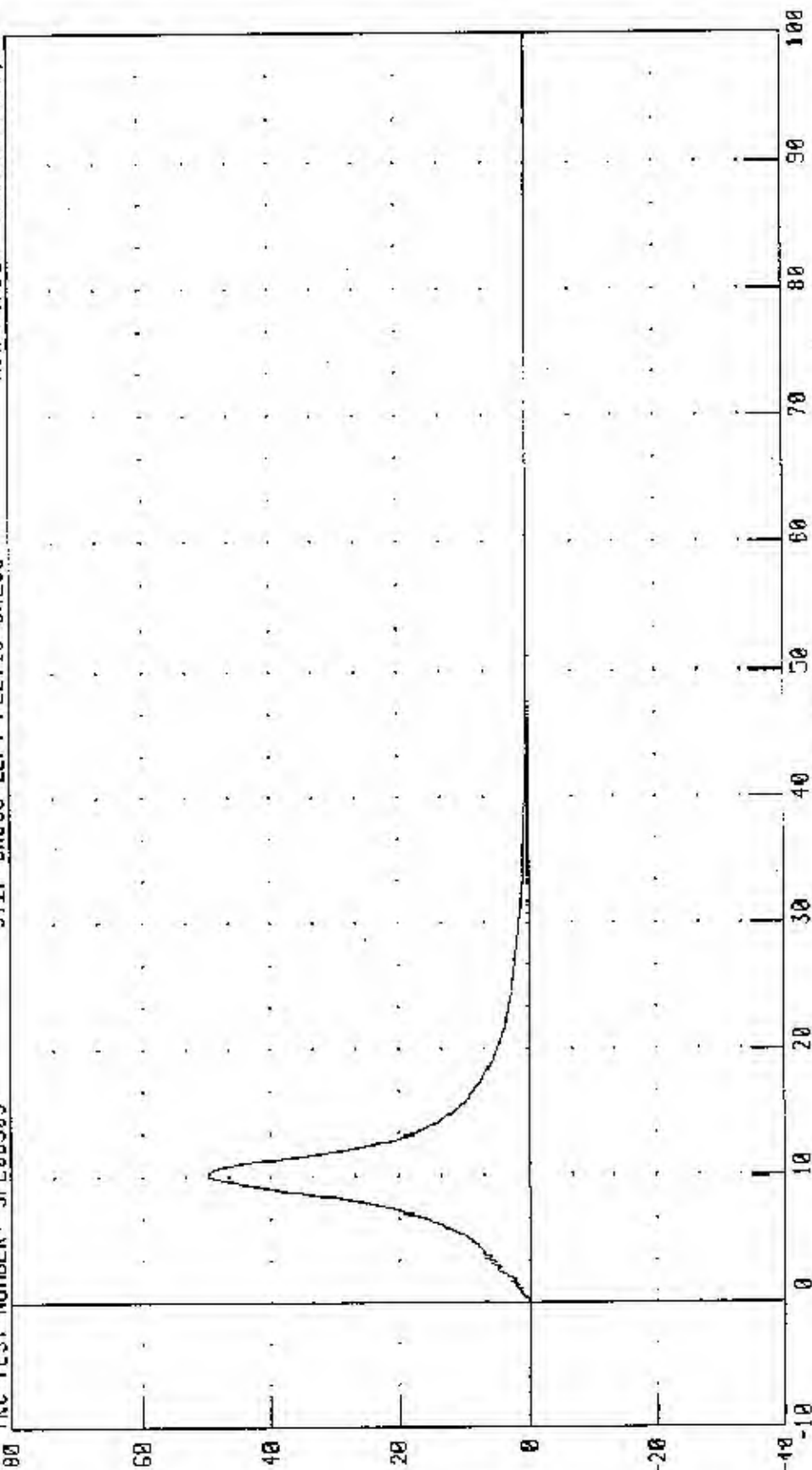
# PART 572-F S.I.D. PELVIS CALIBRATION - (LEFT SIDE IMPACT)

PENDULUM DECELERATION

TRC TEST NUMBER: SPL06505

572F SN065 LEFT PELVIS CAL05

RUN NUMBER: 031703.1386.1



TIME (MS)

PEAK DATA: 49.76 G @ 10.16 MS: -0.22 G @ 63.68 MS

CHANNEL: PENXC FILTER: CH. CLASS 1000

ACCELERATION (G)



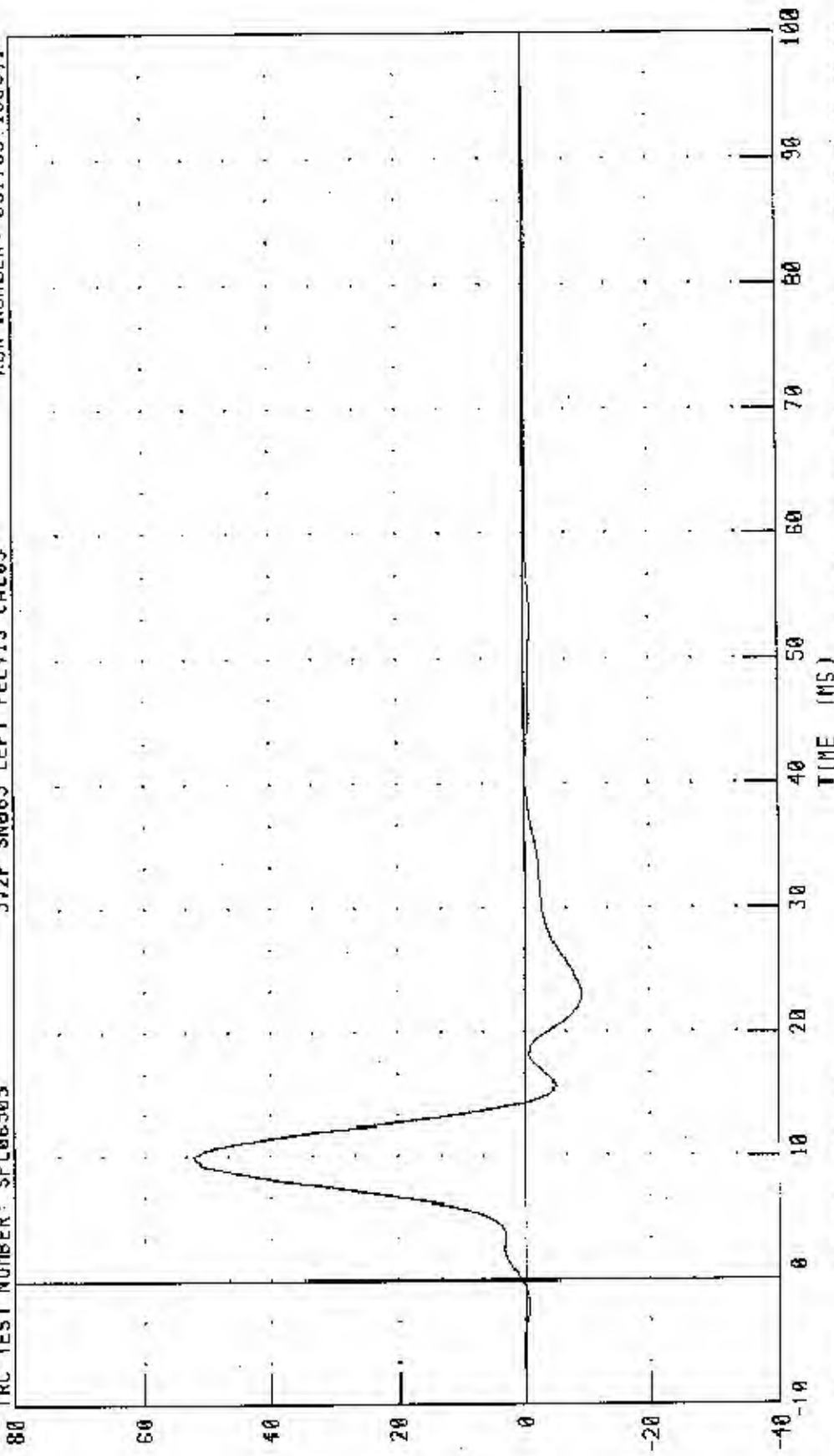
# PART 572-F S.I.D. PELVIS CALIBRATION - (LEFT SIDE IMPACT)

PELVIS ACCELERATION Y AXIS

572F SN065 LEFT PELVIS CAL05

TRC TEST NUMBER: SPL06505

RUN NUMBER: 031703.1306.1



PEAK DATA: 52.06 G @ 10.00 MS, -9.37 G @ 23.13 MS

FILTER: FIR 100

CHANNEL: PEVYG

ACCELERATION (G)

Calibration Test Results

Post-Test

SID: 028


Configured for Left Side Impact

External Dimensions:	The dummy passed all external dimension requirements.
Lateral Head Drop Test:	The head passed all lateral drop test requirements.
Lateral Neck Test:	The neck passed all impact test requirements.
Lateral Thorax Impact Test:	The thorax passed all impact test requirements.
Thoracic Shock Absorber Test:	The thoracic shock absorber was not tested at this time.
Lumbar Flexion Test:	The dummy met the lumbar flexion test requirements.
Abdominal Compression Test:	The abdomen met the compression test requirements.
Pelvis Impact Test:	The lateral pelvis passed all impact test requirements.

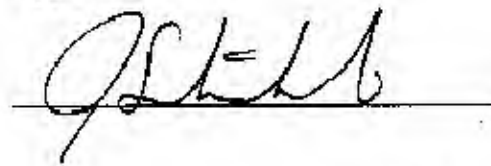
**Transportation Research Center Inc.**  
**572F SID Dummy**  
**External Dimensions**  
**Serial No. 028 Calibration No. 03**

Test Parameter	Dimension	Specification	Results	Pass
Seated Height	SH	889.0 - 909.3 mm	898 mm	Yes
Rib Height	RH	501.7 - 520.7 mm	506 mm	Yes
Hip Pivot Height	HP	99.1 REF mm	99.1 mm	
Rib From Backline	RD	228.6 - 241.3 mm	235 mm	Yes
Knee Pivot From Backline	KH	510.5 - 525.8 mm	513 mm	Yes
Knee Pivot From Floor	KV	490.2 - 505.5 mm	499 mm	Yes
Hip Width	HW	355.6 - 391.2 mm	374 mm	Yes
Top Rib Width From CVL	RW-1	165.1 - 180.3 mm	173 mm	Yes
Bottom Rib Width From CVL	RW-2	165.1 - 180.3 mm	172 mm	Yes
Difference Between Top & Bottom Rib Width from CVL		<= 2.5 mm	1.0 mm	Yes

Technician



Approved



**TRE**

TRANSPORTATION RESEARCH CENTER INC.

LATERAL HEAD DROP TEST

HYBRIDIII SID DUMMY

24-MAR-03

LEFT SIDE CONFIGURATION

TRC INC.


TEST NO. HDL02803

H3/SID SN028 HEAD DROP CAL03

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE	18.9 - 25.6 deg. C	21.67 deg. C
RELATIVE HUMIDITY	10 - 70 %	44.00 %
PEAK RESULTANT ACCELERATION	120 - 150 G	147.14 G
PEAK LONGITUDINAL ACCELERATION	15 G MAX	-7.01 G
IS ACCELERATION CURVE UNIMODAL?	YES	YES

TEST MEETS SPECIFICATIONS

TECHNICIAN



RUN NUMBER: 032403.1232;1



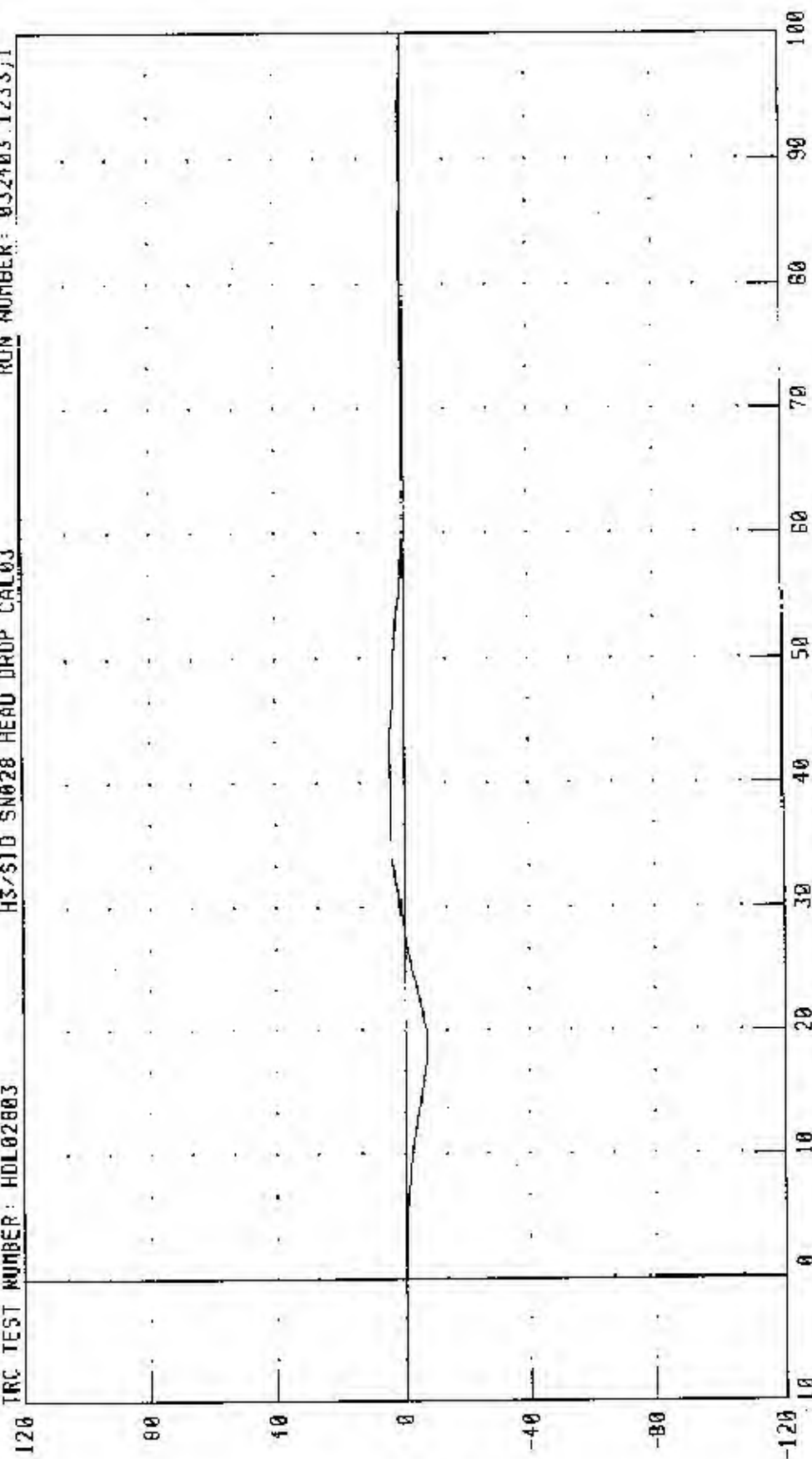
BIOSID DUMMY CALIBRATION -- 35 DEGREE LEFT LATERAL HEAD DROP

HEAD ACCELERATION X AXIS

TRC TEST NUMBER: HDL02803

H3/SID SN028 HEAD DROP CAL03

RUN NUMBER: 032403.1233.1



ACCELERATION (G)

CHANNEL HE0XC FILTER: CH. CLASS 1000

PEAK DATA: 4.39 G @ 4.32 MS, -7.01 G @ 1.84 MS

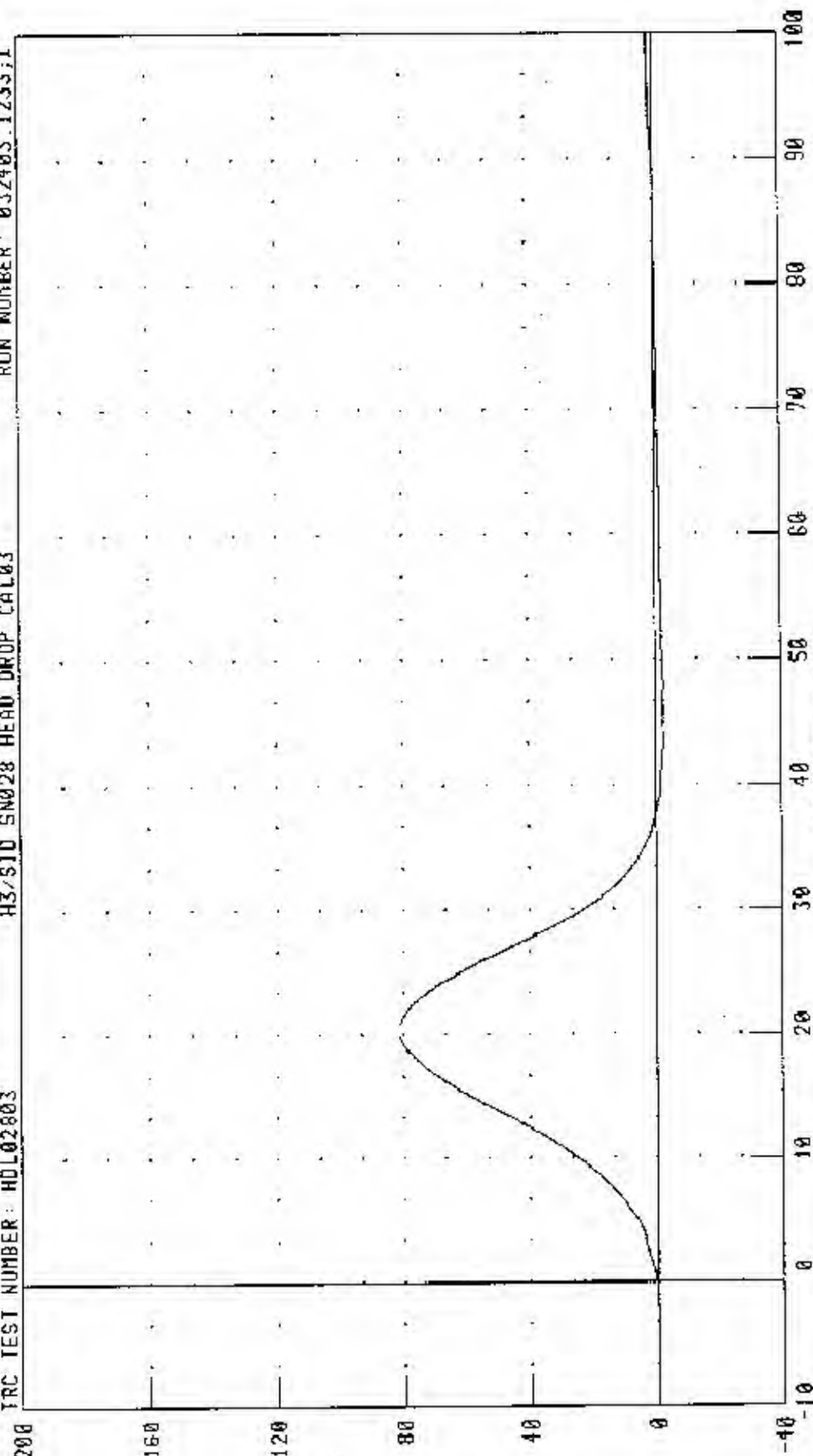
# BIOSID DUMMY CALIBRATION 35 DEGREE LEFT LATERAL HEAD DROP

HEAD ACCELERATION Y AXIS

RUN NUMBER: 032403.1233;1

H3/S10 SN028 HEAD DROP CAL03

TRC TEST NUMBER: HDL02803



TIME (MS X 10<sup>-1</sup>)

PEAK DATA: 81.49 C @ 2.00 MS, -2.70 C @ 4.80 MS

FILTER: CH CLASS 1000

CHANNEL: HEDYG

ACCELERATION (G)

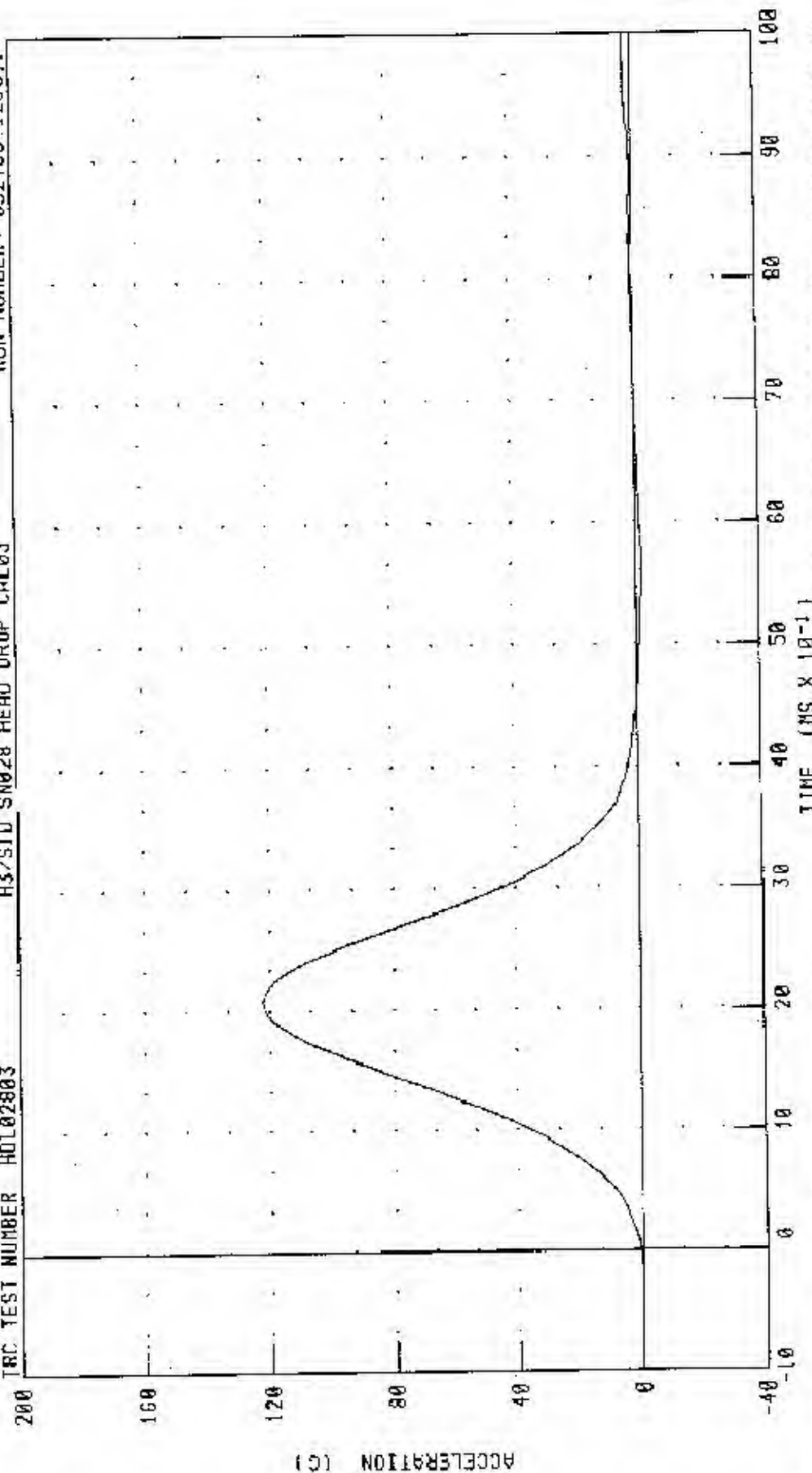
# BIOSIO DUMMY CALIBRATION -- 35 DEGREE LEFT LATERAL HEAD DROP

HEAD ACCELERATION Z AXIS

RUN NUMBER: 032403.1233.1

H3/SID SN028 HEAD DROP CAL03

TRC TEST NUMBER HOL02803



PEAK DATA: 122.41 G @ 2.08 MS; 2.10 G @ 5.76 MS

CHANNEL: MEDZC FILTER: CH CLASS 1000

ACCELERATION (G)

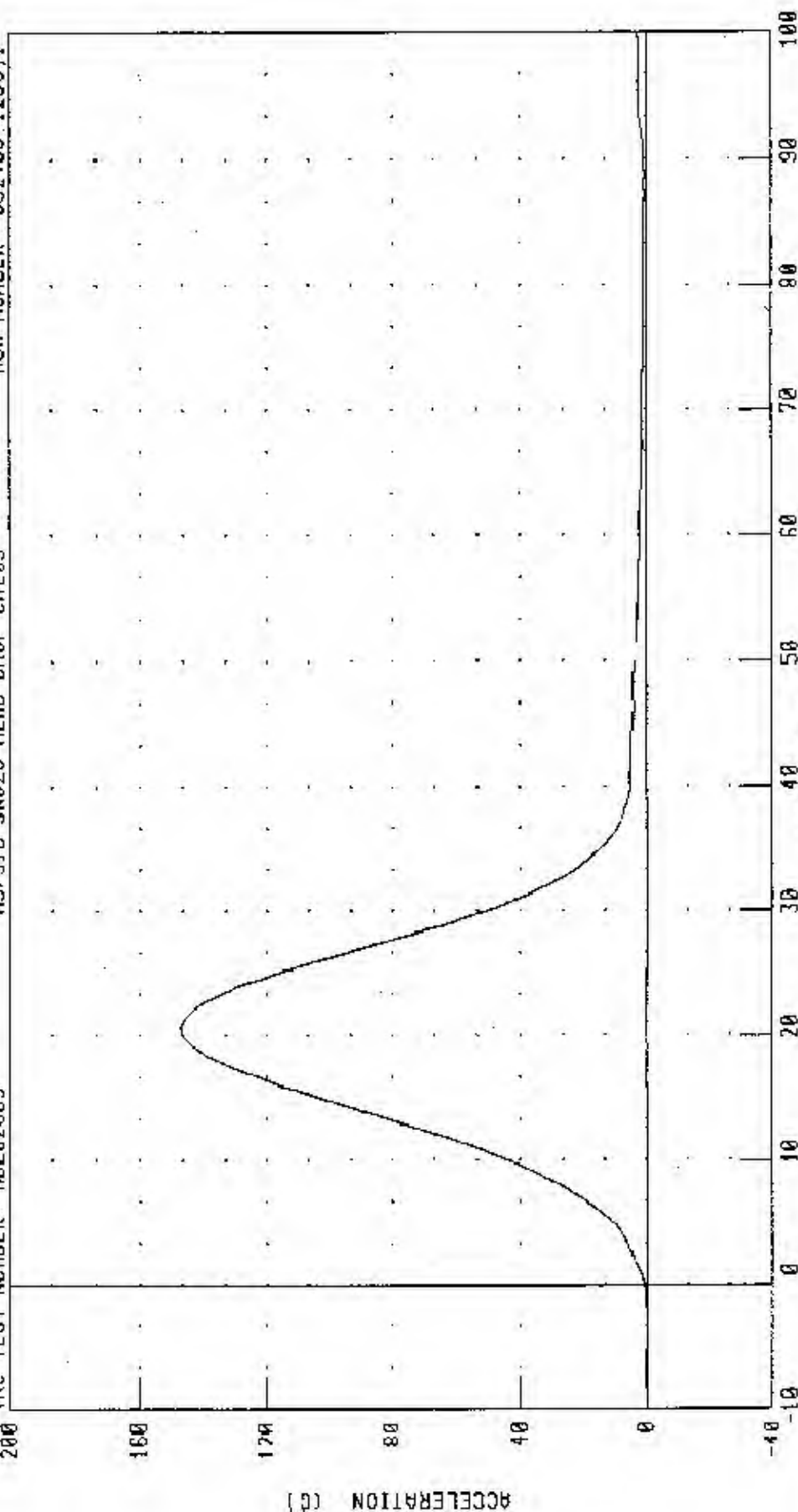
# BIOSIO DUMMY CALIBRATION -- 35 DEGREE LEFT LATERAL HEAD DROP

HEAD RESULTANT ACCELERATION

H3/SJD SN028 HEAD DROP CAL03

TRC TEST NUMBER: HDL02803

RUN NUMBER: 032403.1233.1



TIME (MS X 10<sup>-1</sup>)

PEAK DATA: 147 14 C 0 2 08 MS, 0 03 C 0 -0 40 MS

CHANNEL: HEDRG FILTER: CH CLASS: 1000



TRANSPORTATION RESEARCH CENTER INC.

LATERAL NECK TEST

HYBRIDIII SID DUMMY

25-MAR-03

LEFT SIDE CONFIGURATION

TRC INC.

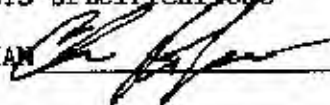
TEST NO. NFL02803

H3/SID SNO28 NECK LEFT CAL03

TEST PARAMETER		SPECIFICATION	TEST RESULTS
TEMPERATURE		20.6 - 22.2 deg. C	21.67 deg. C
RELATIVE HUMIDITY		10 - 70 %	43.00 %
IMPACT VELOCITY		6.89 - 7.13 M/S	7.06 M/S
INTEGRATED VELOCITY	10 MS	1.96 - 2.55 M/S	2.32 M/S
	20 MS	4.12 - 5.10 M/S	4.55 M/S
	30 MS	5.73 - 7.01 M/S	6.43 M/S
	40 - 70 MS	6.27 - 7.64 M/S	7.16- 7.29 M/S
MAXIMUM MIDSAGGITAL PLANE ROTATION		66 - 82 deg.	69.00 deg.
ROTATION ANGLE DECAY TIME FROM PEAK TO ZERO		58 - 67 MS	59.20 MS
MAXIMUM MOMENT ABOUT OCCIPITAL CONDYLE		73 - 88 NM	83.15 NM
POSITIVE MOMENT DECAY TIME FROM PEAK TO ZERO		49 - 64 MS	52.56 MS
TIME OF MAXIMUM ROTATION AFTER MAXIMUM MOMENT		2 - 16 MS	9.04 MS

TEST MEETS SPECIFICATIONS

TECHNICIAN



RUN NUMBER: 032403.1322;1

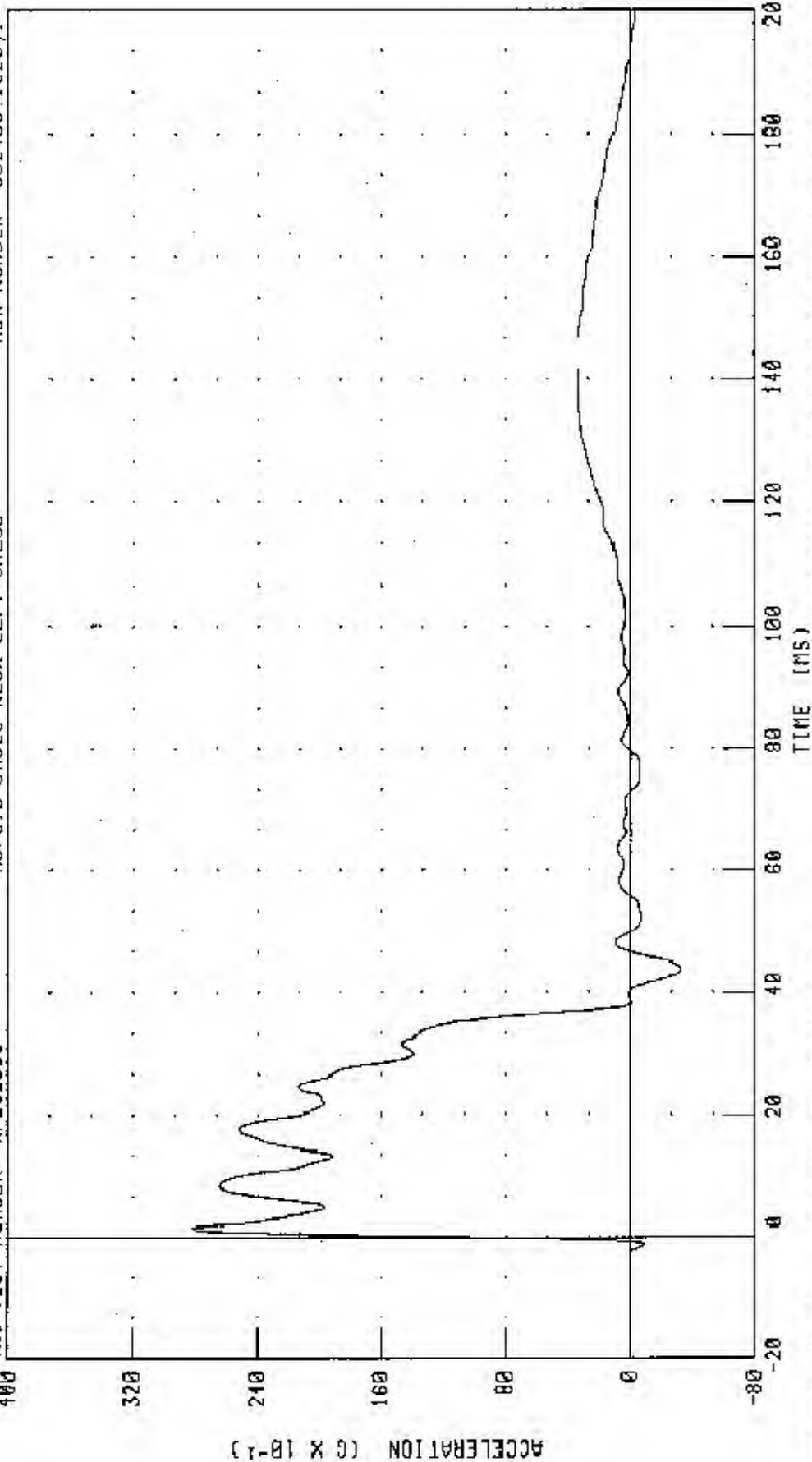
# 113/SID DUMMY CALIBRATION -- LEFT LATERAL NECK TEST

PENDULUM DECELERATION

RUN NUMBER: 032403.1323.1

TRC TEST NUMBER: NFL02803

H3/SID SN028 NECK LEFT CAL03



PEAK DATA: 28 13 G 0 1.44 MS, -3.29 G 0 44.00 MS

CHANNEL: PENXC FILTER: CH. CLASS 130

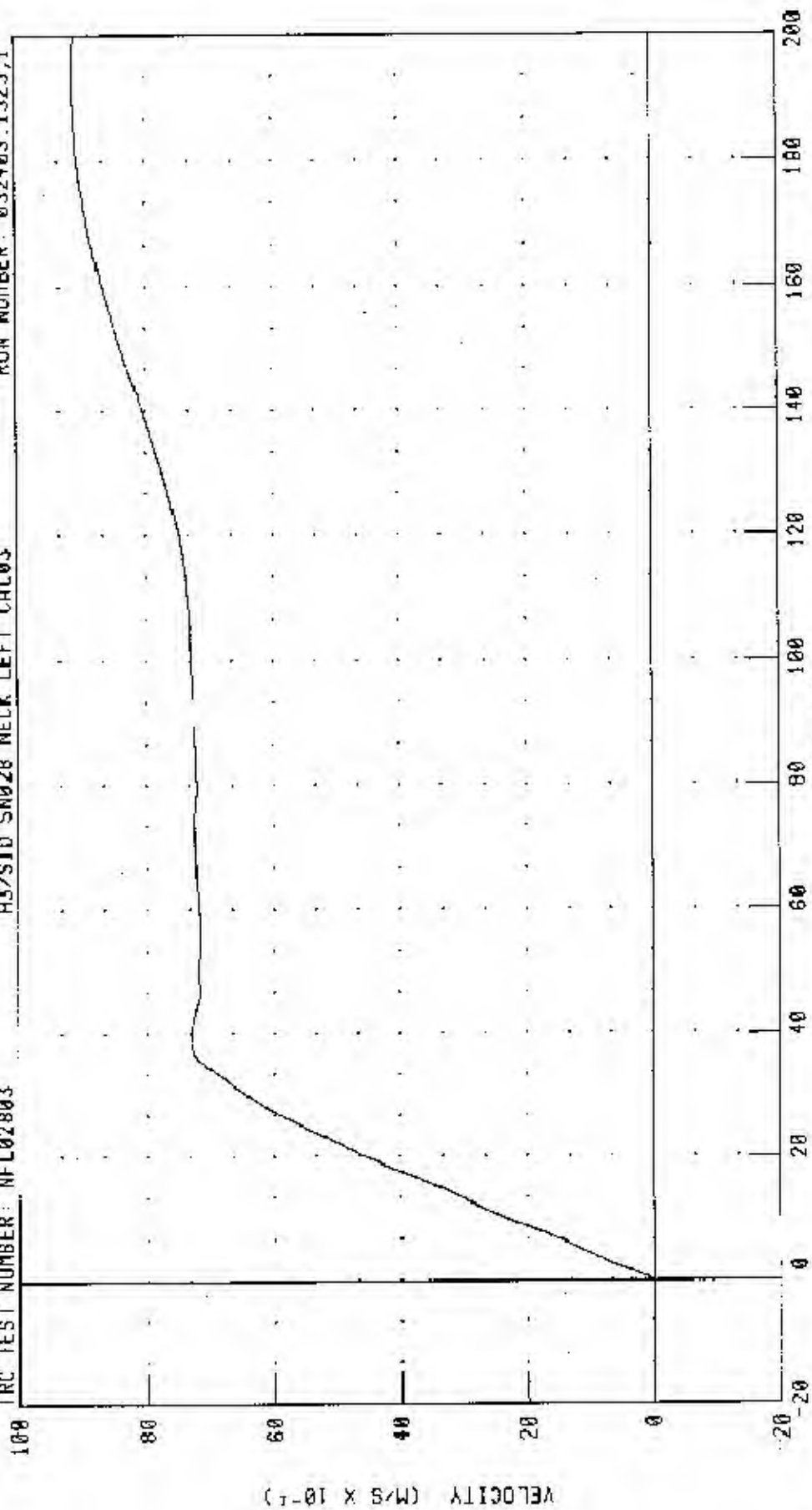
# H3/SID DUMMY CALIBRATION -- LEFT LATERAL NECK TEST

INTEGRATED PENDULUM VELOCITY

H3/SID SN020 NECK LEFT CAL03

RUN NUMBER: 032403.1323,1

TRC TEST NUMBER: NFL02803



TIME (MS)

PEAK DATA: 9.11 M/S @ 193.44 MS; -0.01 M/S @ -0.72 MS

CHANNEL: PENXY1 FILTER: CH. CLASS 100

# H3/SID DUMMY CALIBRATION -- LEFT LATERAL NECK TEST

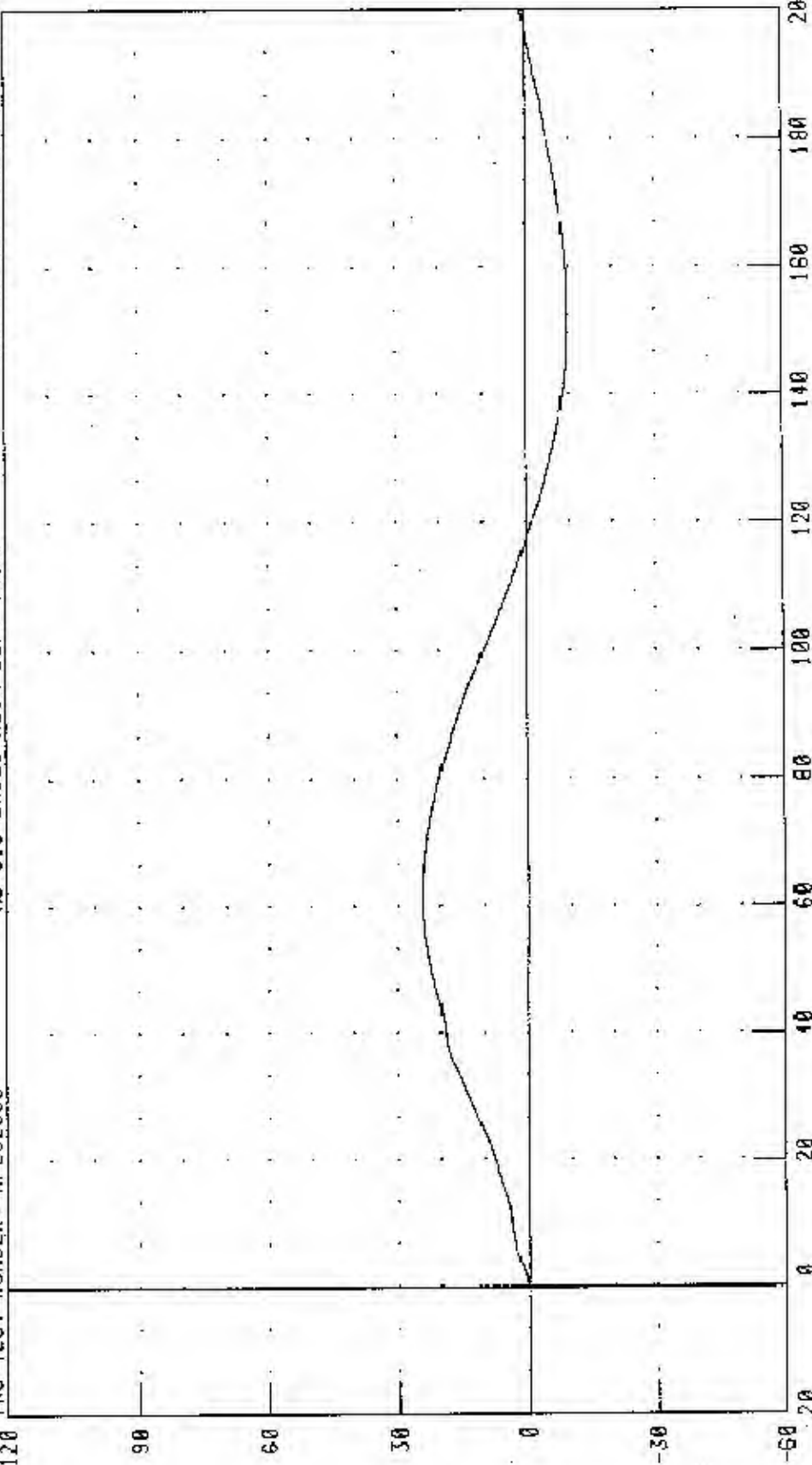
ROTATION ABOUT BASE OF NECK

RUN NUMBER: 032403.1323.1

H3/SID SN028 NECK LEFT CAL03

TRC TEST NUMBER: NFL02803

120



ANGLE (°)

TIME (MS)

PEAK DATA: 24.39 ° @ 61.36 MS; -9.84 ° @ 150.80 MS

CHANNEL BETA FILTER CH. CLASS 60



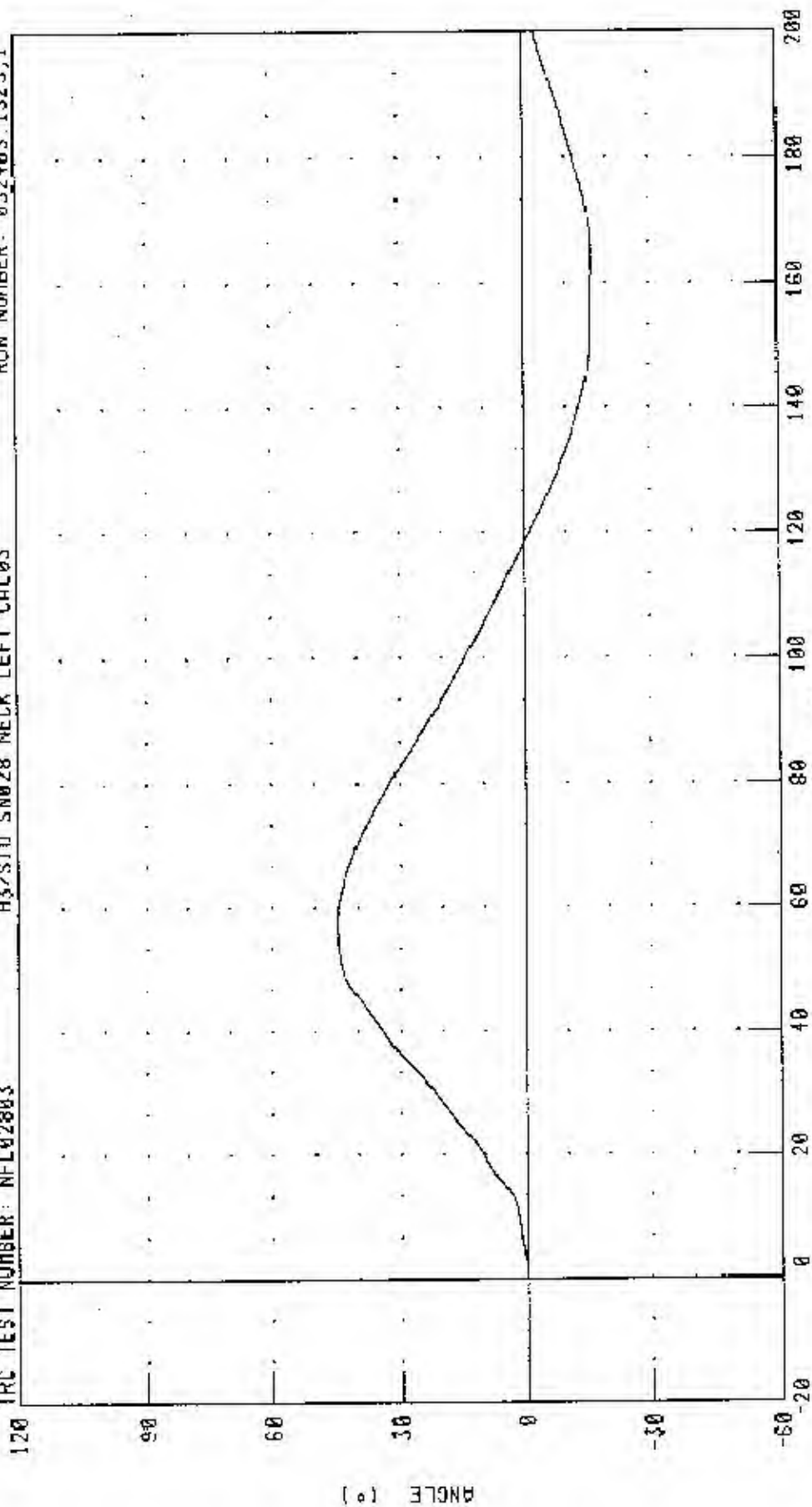
# H3/S10 DUNNY CALIBRATION -- LEFT LATERAL NECK TEST

ROTATION ABOUT OCCIPITAL CONDYLE

TRC TEST NUMBER: NFL02803

H3/S10 SN028 NECK LEFT CAL03

RUN NUMBER: 032403.1323.1



TIME (MS)

PEAK DATA: 44.78 ° @ 57.44 MS; -16.22 ° @ 164.88 MS

CHANNEL: THE1A FILTER: CH. CLASS 60

ANGLE (°)

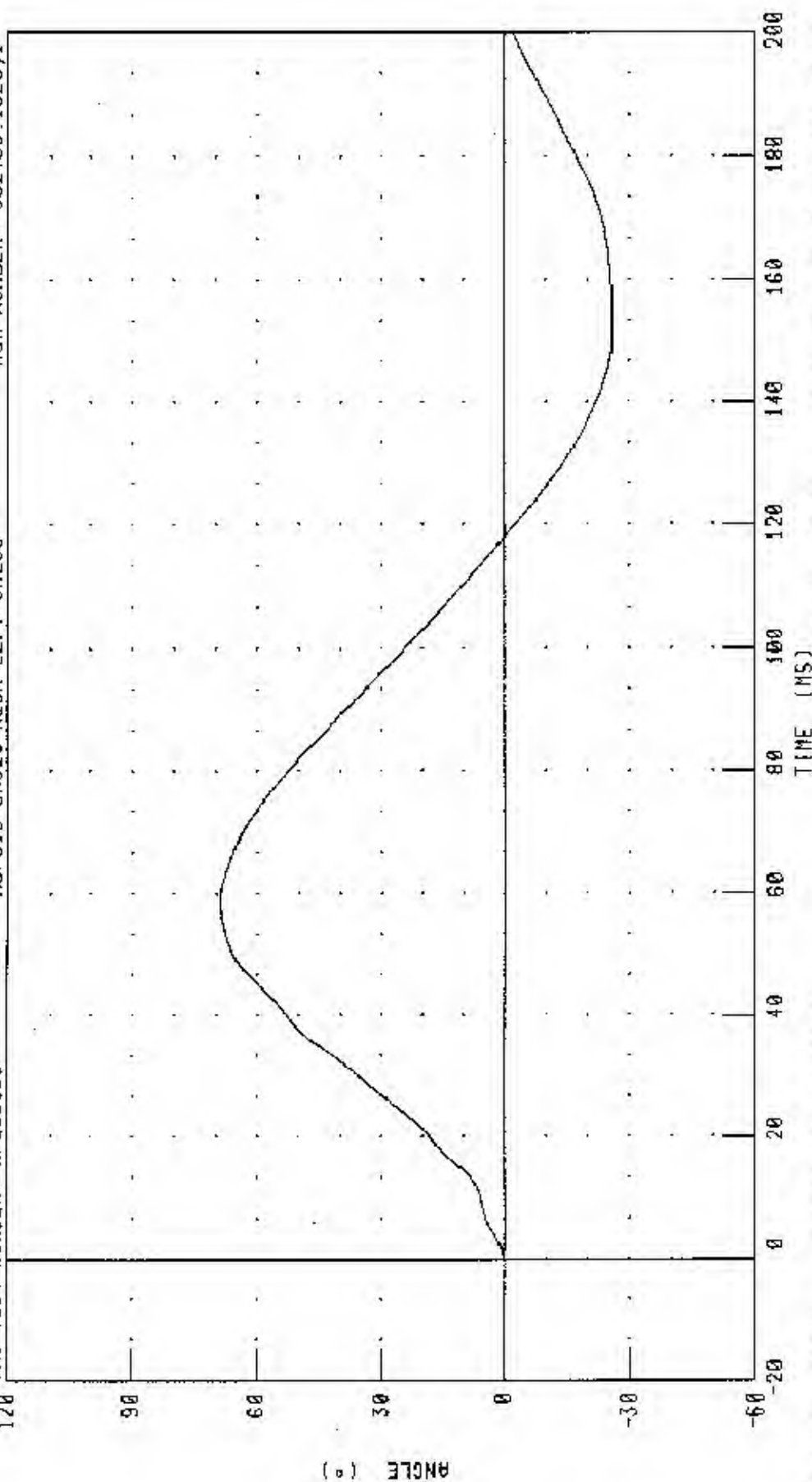
# H3/SID DUMMY CALIBRATION LEFT LATERAL NECK TEST

TOTAL ROTATION

IRC TEST NUMBER: NFL02803

H3/SID SN020 NECK LEFT CAL03

RUN NUMBER: 032403.1323;1



PEAK DATA: 65.00 ° @ 58.80 MS; -26.00 ° @ 151.60 MS

CHANNEL: TOTAL FILTER: CH. CLASS 60

ANGLE (°)

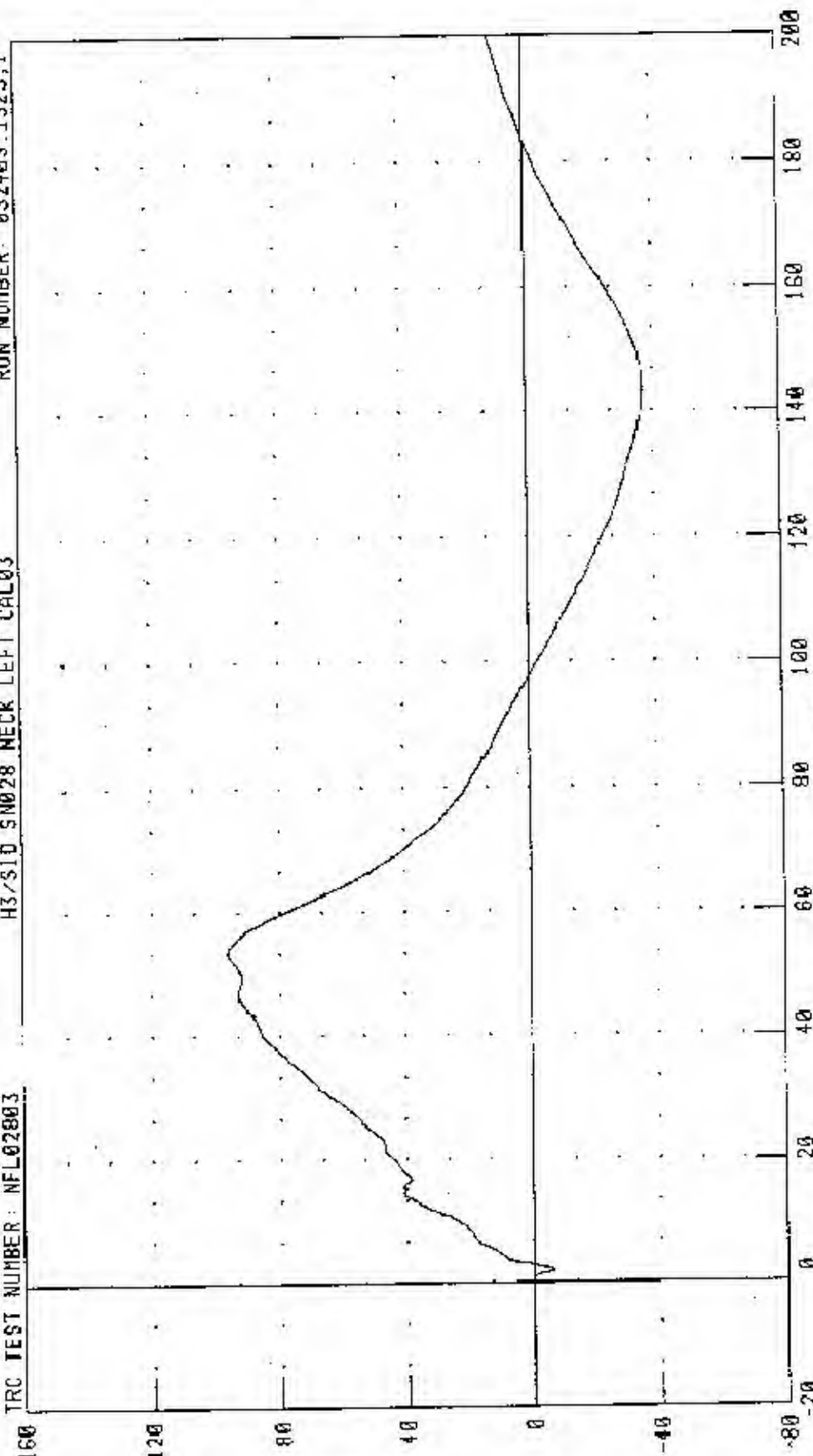
# H3/S1D DUNNY CALIBRATION -- LEFT LATERAL NECK TEST

NECK FORCE Y AXIS

RUN NUMBER: 032403.1323;1

H3/S1D S0028 NECK LEFT CAL03

TRC TEST NUMBER: NFL02803



(10<sup>1</sup> X N) 30803

TIME (MS)

PEAK DATA 966.31 N @ 53.52 MS, -369.27 N @ 143.04 MS

CHANNEL NEKYF FILTER: CH. CLASS 1000

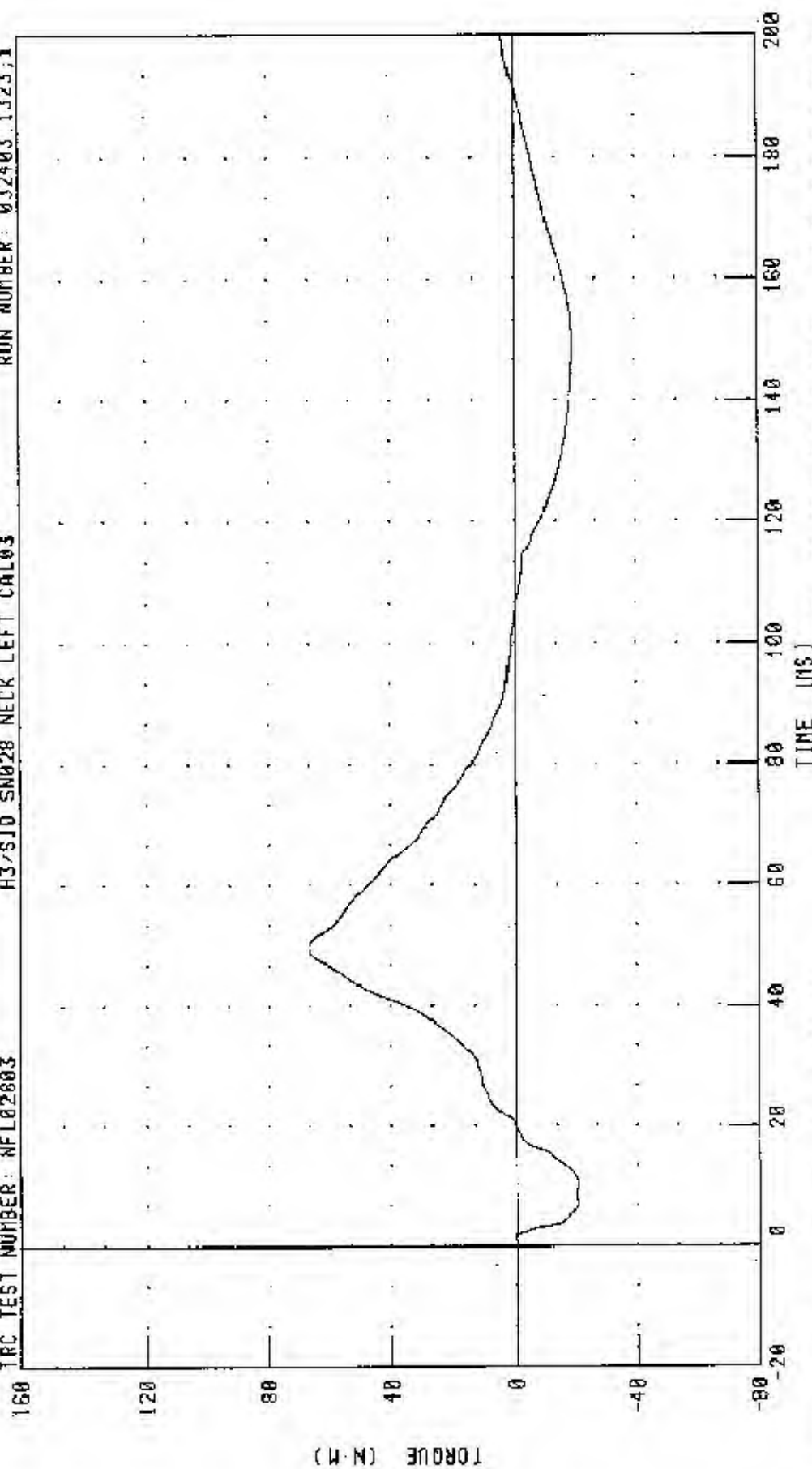
# H3/SJD DUMMY CALIBRATION -- LEFT LATERAL NECK TEST

NECK MOMENT X AXIS

IRC TEST NUMBER: NFL02803

H3/SJD SN028 NECK LEFT CAL03

RUN NUMBER: 032403.1323.1



PEAK DATA: 66.78 N-M @ 49.76 MS, -20.52 N-M @ 6.96 MS

CHANNEL: NEKXN FILTER: CH. CLASS 600



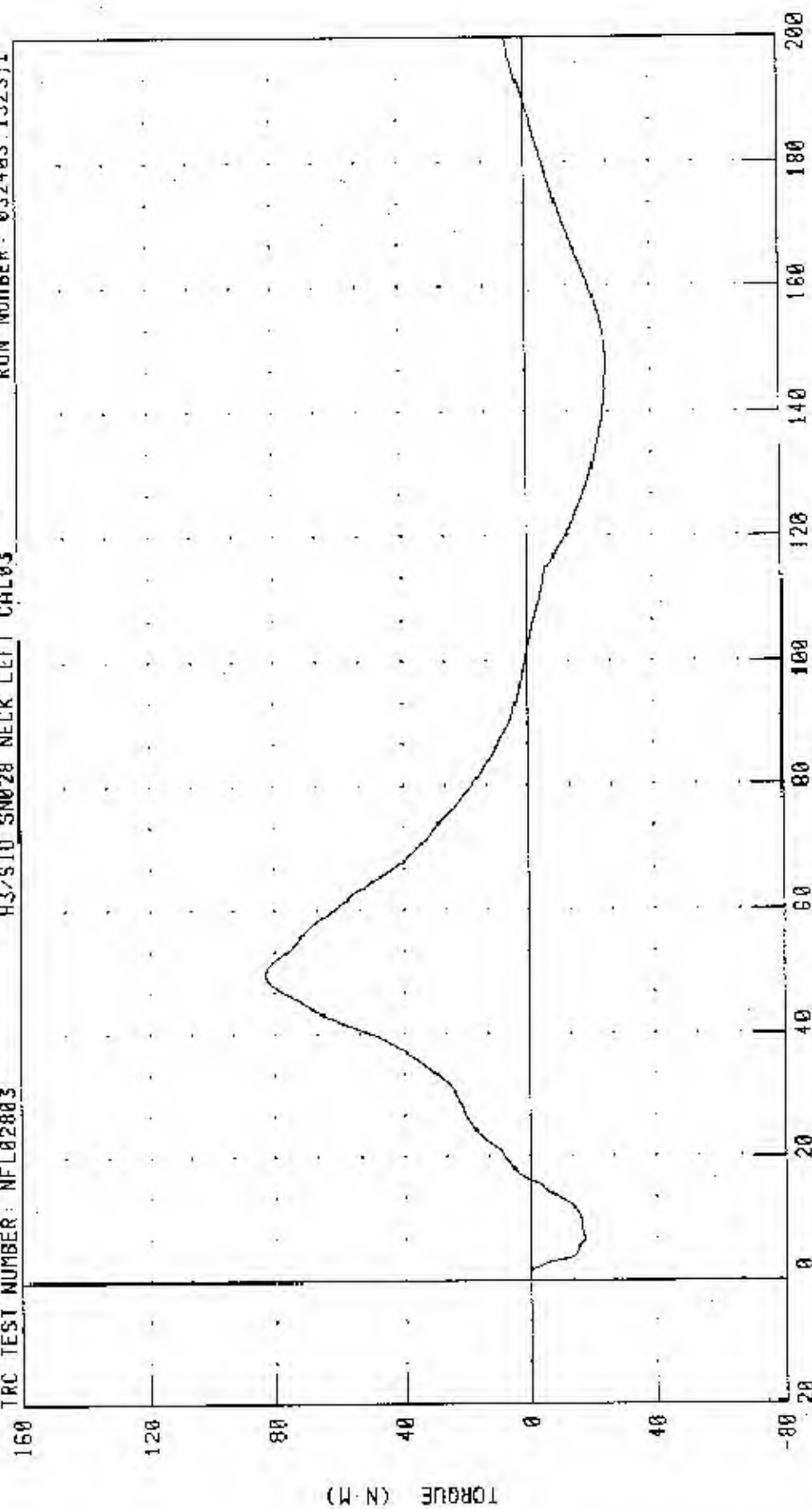
# H3/S10 DUMMY CALIBRATION -- LEFT LATERAL NECK TEST

TOTAL MOMENT ABOUT OCCIPITAL CONDYLE

RUN NUMBER: 032403.1323.1

H3/S10 SN028 NECK LEFT CAL03

TRC TEST NUMBER: NFL02803



TIME (MS)

PEAK DATA: 83.15 N M @ 49.76 MS -25.83 N M @ 147.52 MS

CHANNEL: NEKOM FILTER: CH CLASS 600

TRANSPORTATION RESEARCH CENTER INC.

LATERAL THORAX IMPACT TEST

SIDE IMPACT DUMMY

21-MAR-03

LEFT SIDE CONFIGURATION

TRC INC.

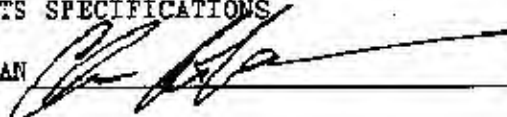
TEST NO: STL02803A

572F SID SN028 L.THORAX CAL03

TEST PARAMETER	SPECIFICATION (ABSOLUTE VALUE)	TEST RESULTS
TEMPERATURE	18.9 - 25.5 C	21.7 DEG. C
RELATIVE HUMIDITY	10 - 70 %	46.0 %
PENDULUM VELOCITY	4.21 - 4.33 M/S	4.27 M/S
PEAK ACCELERATION: UPPER RIB BAR	37 - 46 G	39.2 G
PEAK ACCELERATION: LOWER RIB BAR	37 - 46 G	38.5 G
PEAK ACCELERATION: LOWER THORACIC SPINE	15 - 22 G	17.4 G

TEST MEETS SPECIFICATIONS

TECHNICIAN



RUN NUMBER: 032103.1310;1

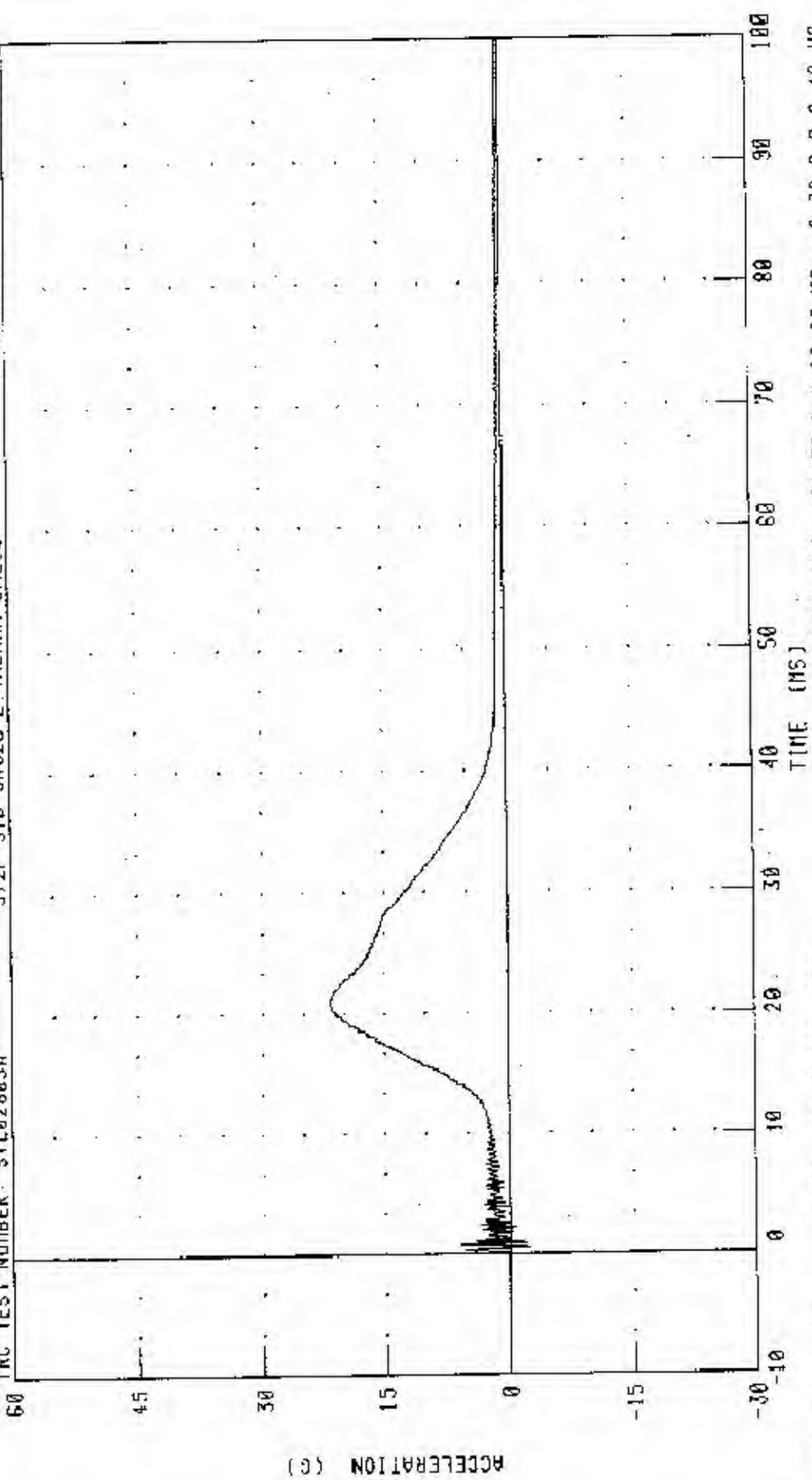
PART 572-F S.I.D. THORAX CALIBRATION - (LEFT SIDE IMPACT)

PENDULUM DECELERATION

TRC TEST NUMBER: STL02803A

572F SID SN028 L THORAX CAL03

RUN NUMBER: 032103.1311.1

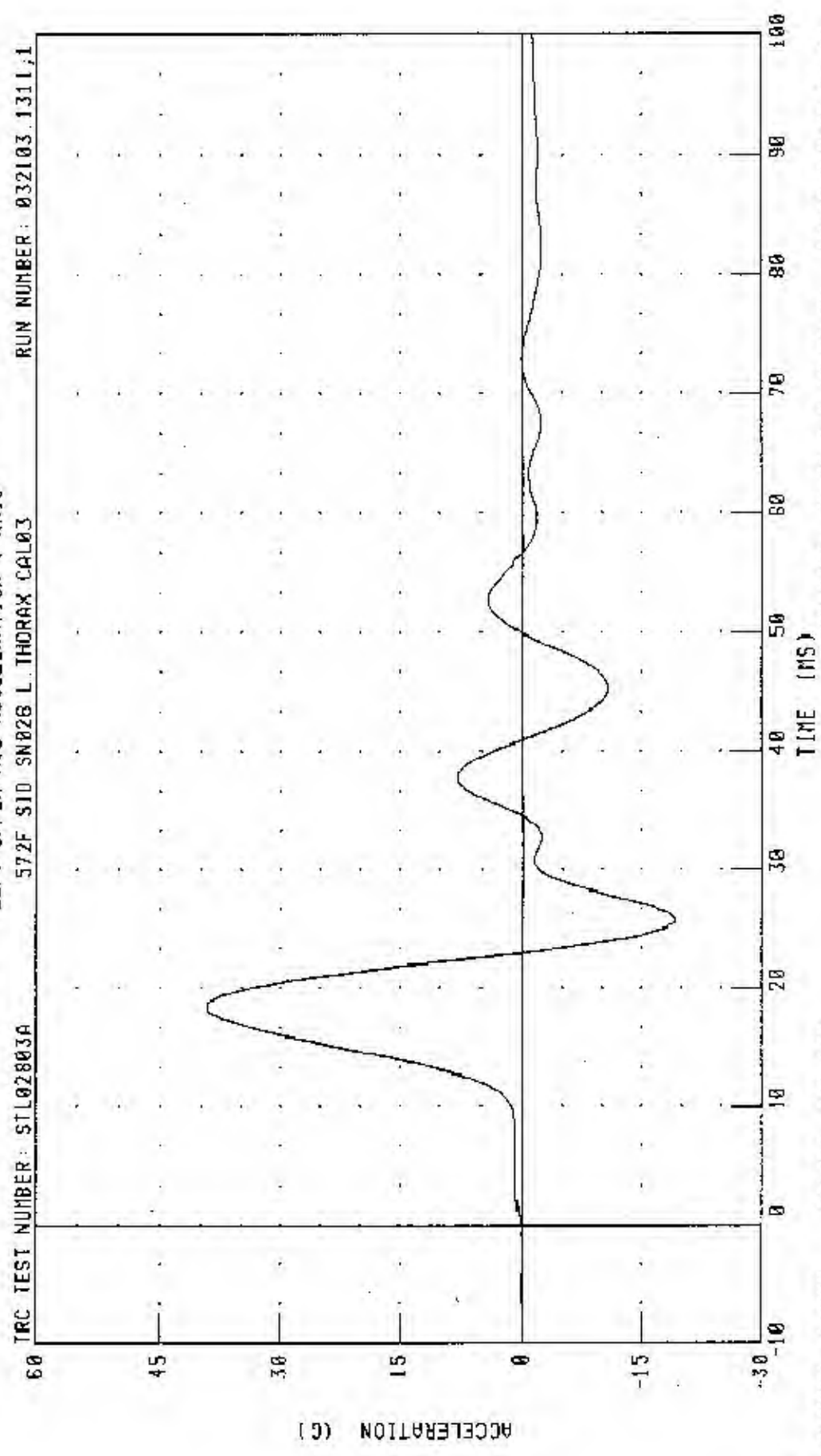


PEAK DATA: 21.79 G @ 20.80 MS; -2.30 G @ 0.40 MS

CHANNEL: PENXG FILTER CH. CLASS 1000

# PART 572-F S.I.D. THORAX CALIBRATION - (LEFT SIDE IMPACT)

LEFT UPPER RIB ACCELERATION Y AXIS



TRC TEST NUMBER: STL02803A

572F SID SN026 L THORAX CAL03

RUN NUMBER: 032103.1311.1

PEAK DATA: 39.23 G @ 18.75 MS, -19.33 G @ 25.63 MS

FILTER: FIR 100

CHANNEL: LURYG

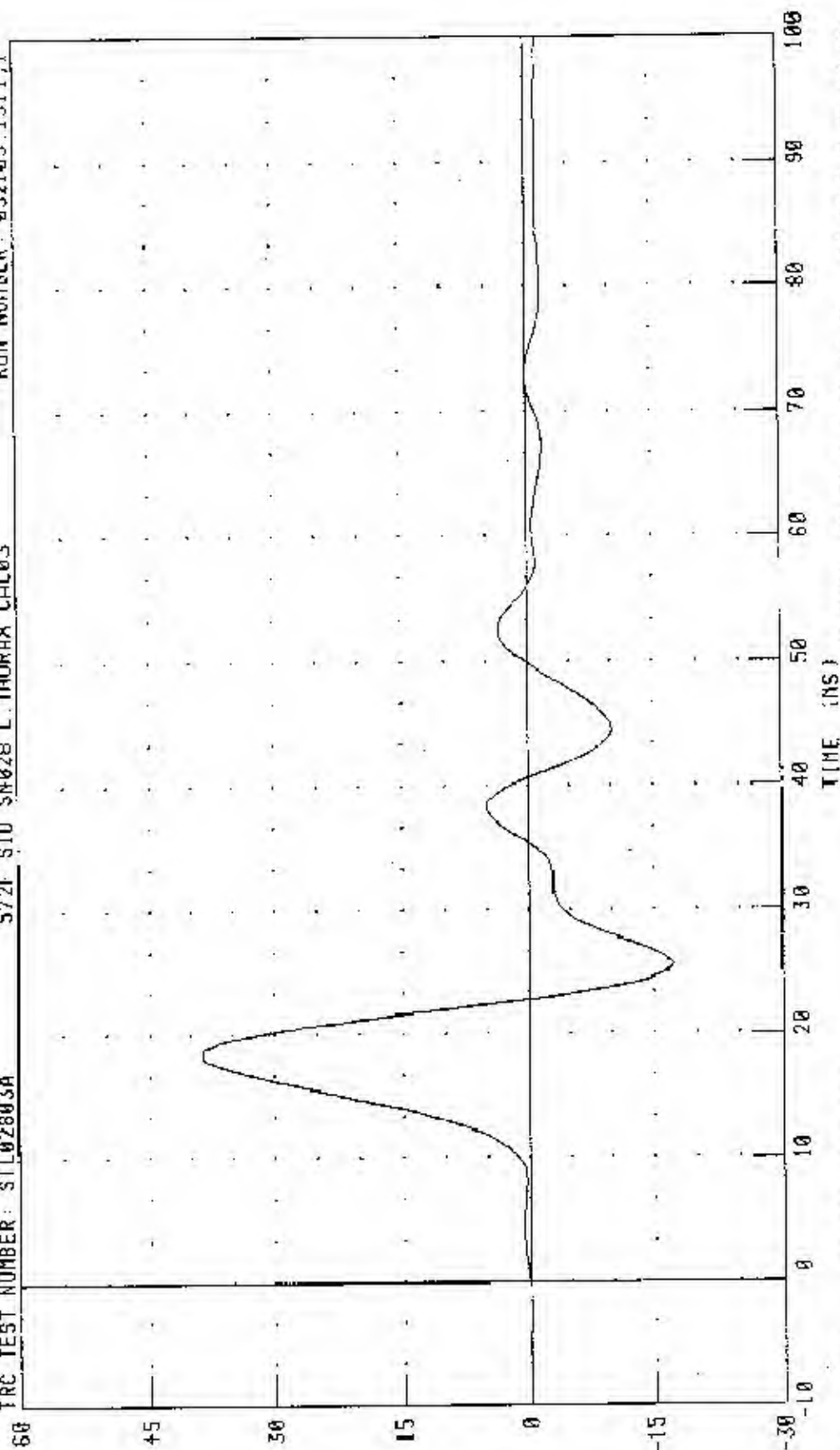


# PART 572-F S.I.D. THORAX CALIBRATION - (LEFT SIDE IMPACT)

LEFT LOWER RIB ACCELERATION Y AXIS

572F SID SN028 L THORAX CAL03 RUN NUMBER: 032103.1311.1

TRC TEST NUMBER: STL02803A



ACCELERATION (G)

PEAK DATA 38.51 G @ 18.13 MS, 17.15 G @ 25.63 MS

CHANNEL: LLRYC FILTER: FIR 100

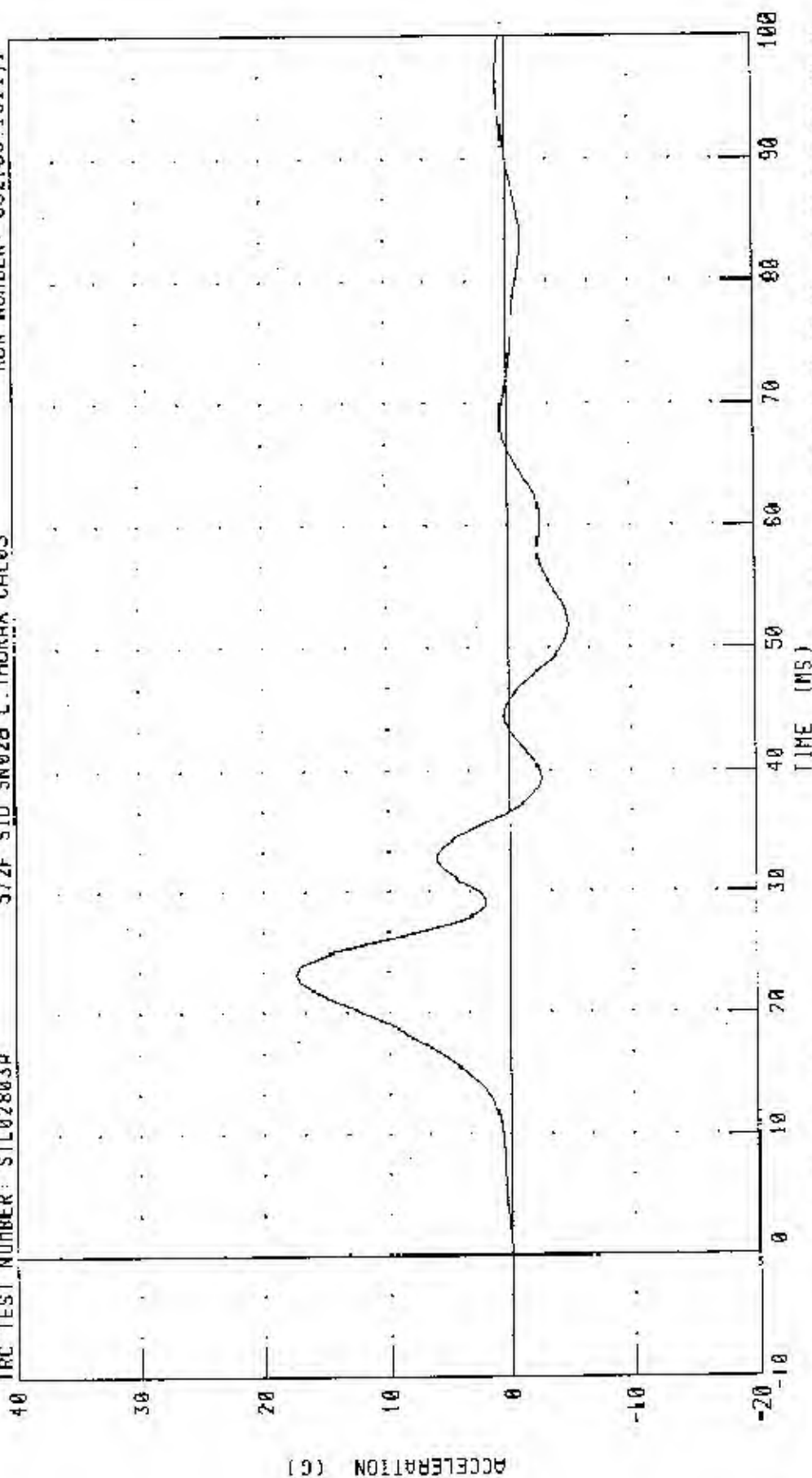
# PART 572-F S I D THORAX CALIBRATION - (LEFT SIDE IMPACT)

LOWER SPINE ACCELERATION Y AXIS

572F SID SN028 L THORAX CAL03

TRC TEST NUMBER: STL02803A

RUN NUMBER: 032103.1311.1



CHANNEL: T12YC

FILTER: FIR 100

PEAK DATA: 17 43 0 23 13 MS: -4.99 G @ 51 88 MS

# Transportation Research Center Inc.

572B Abdomen Compression Test


HIH SID Serial No. 028 Calibration No. 03 - 1

Test Date 03/24/2003


Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.5 °C	21.7 °C	Yes
Relative Humidity	10 - 70 %	45 %	Yes
Displacement Rate	6.35 - 8.89 mm/s	6.7 - 8.7 mm/s	Yes
Data Within Required Corridor	Yes	Yes	Yes

Comments:

Technician



Approved



03.24.2003 10:47:49 183

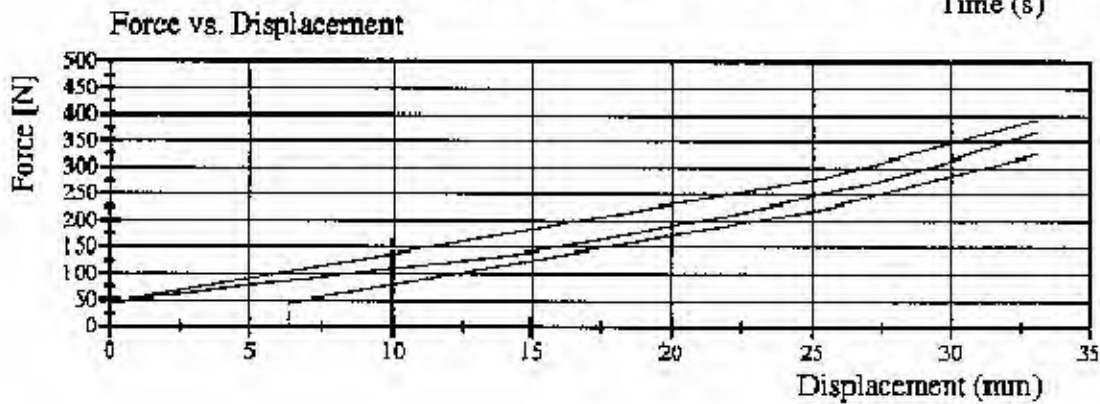
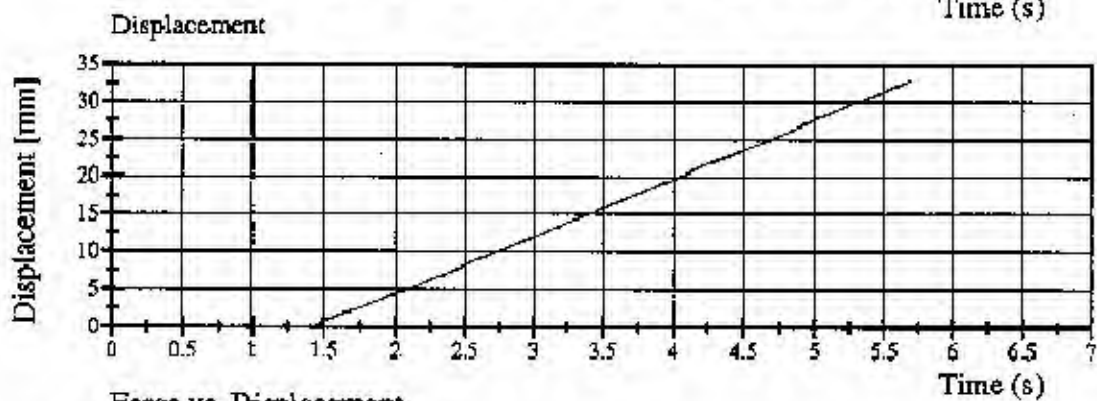
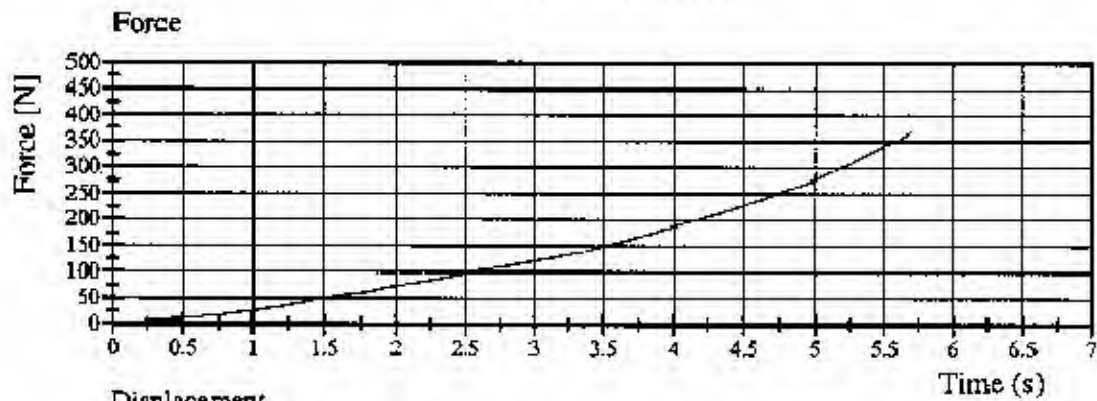


# Transportation Research Center Inc.

572B Abdomen Compression Test

HIH SID Serial No. 028 Calibration No. 03 - 1

Test Date 03/24/2003





**TRANSPORTATION RESEARCH CENTER INC.**

**LUMBAR FLEXION TEST**

**SID PART 572B**

**CAL DATE: 24-Mar-03**


**TRC, INC.**

**TEST NO: 028C03LF1**

**572B SN 028 TORSO FLEX CAL 03**

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE	18.9 – 25.6° C	21.7 °C
RELATIVE HUMIDITY	10 – 70 %	44 %
FORCE AT 0 DEG. FLEXION	-27 – 27 N	0 N
FORCE AT 20 DEG OF FLEXION	98 – 151 N	120.1 N
FORCE AT 30 DEG OF FLEXION	151 – 205 N	173.5 N
FORCE AT 40 DEG OF FLEXION	205 – 258 N	235.8 N
NET RETURN ANGLE AFTER 3 MINUTES	< 12 °	7 °

**TEST MEETS SPECIFICATIONS**

TECHNICIAN 

TRANSPORTATION RESEARCH CENTER INC.

LATERAL PELVIS IMPACT TEST

SIDE IMPACT DUMMY

21-MAR-03

LEFT SIDE CONFIGURATION

TRC INC.

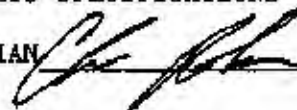
TEST NO: SPL02803

572F SN028 LEFT PELVIS CAL

TEST PARAMETER	SPECIFICATION (ABSOLUTE VALUE)	TEST RESULTS
TEMPERATURE	18.9 - 25.5 C	21.7 DEG. C
RELATIVE HUMIDITY	10 - 70 %	46.0 %
PENDULUM VELOCITY	4.21 - 4.33 M/S	4.28 M/S
PEAK PELVIC ACCELERATION	40 - 60 G	45.5 G
TIME ABOVE 20 G LEVEL	3 - 7 MS	6.2 MS
IS ACCELERATION CURVE UNIMODAL?	YES	YES

TEST MEETS SPECIFICATIONS

TECHNICIAN



RUN NUMBER: 032103.1445;1

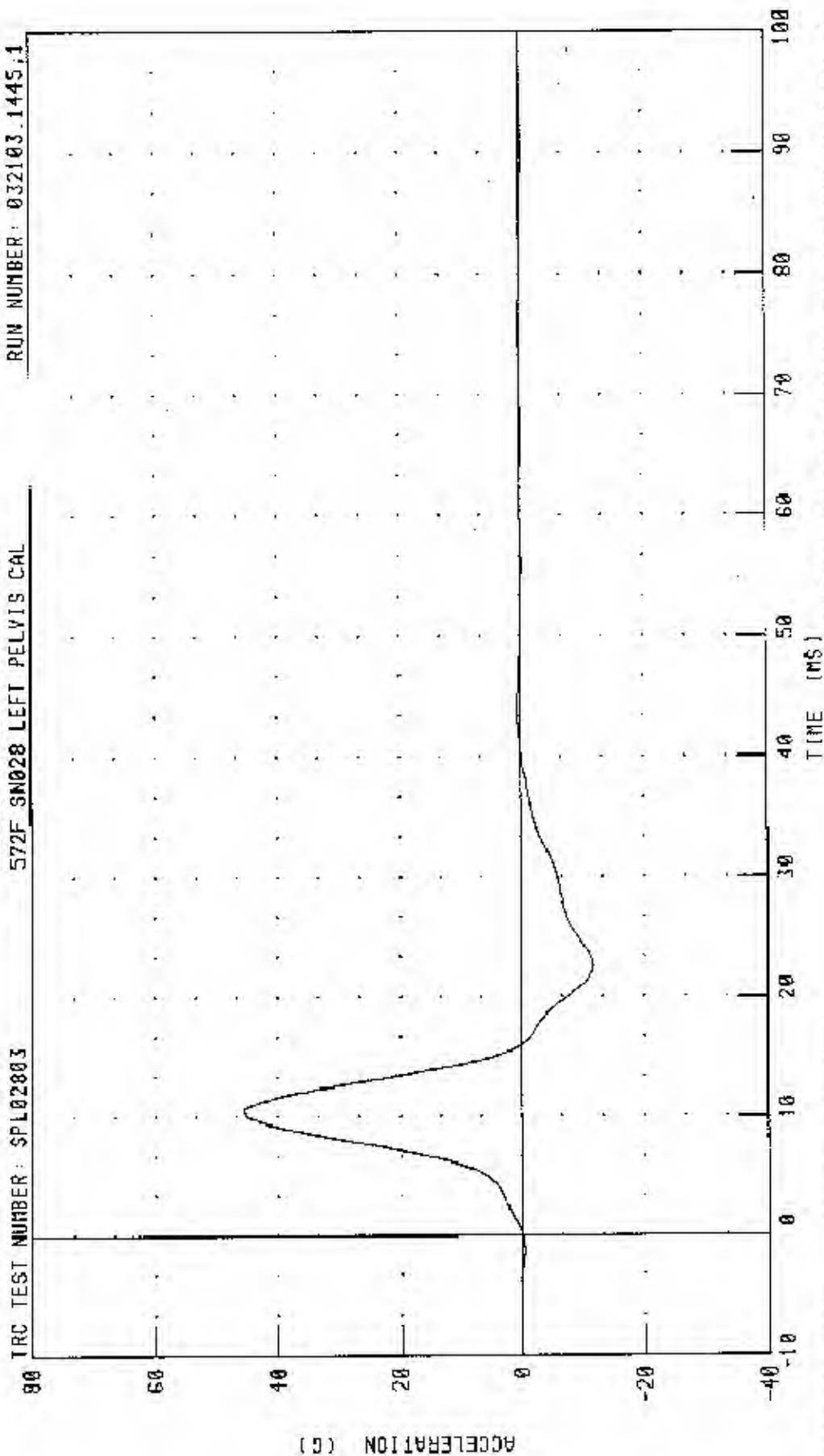
# PART 572-F 5.1.0. PELVIS CALIBRATION - (LEFT SIDE IMPACT)

PELVIS ACCELERATION Y AXIS

RUN NUMBER: 032103.1445.1

TRC TEST NUMBER: SPL02803

572F SN028 LEFT PELVIS CAL



CHANNEL: PELVIC

FILTER: FIR 100

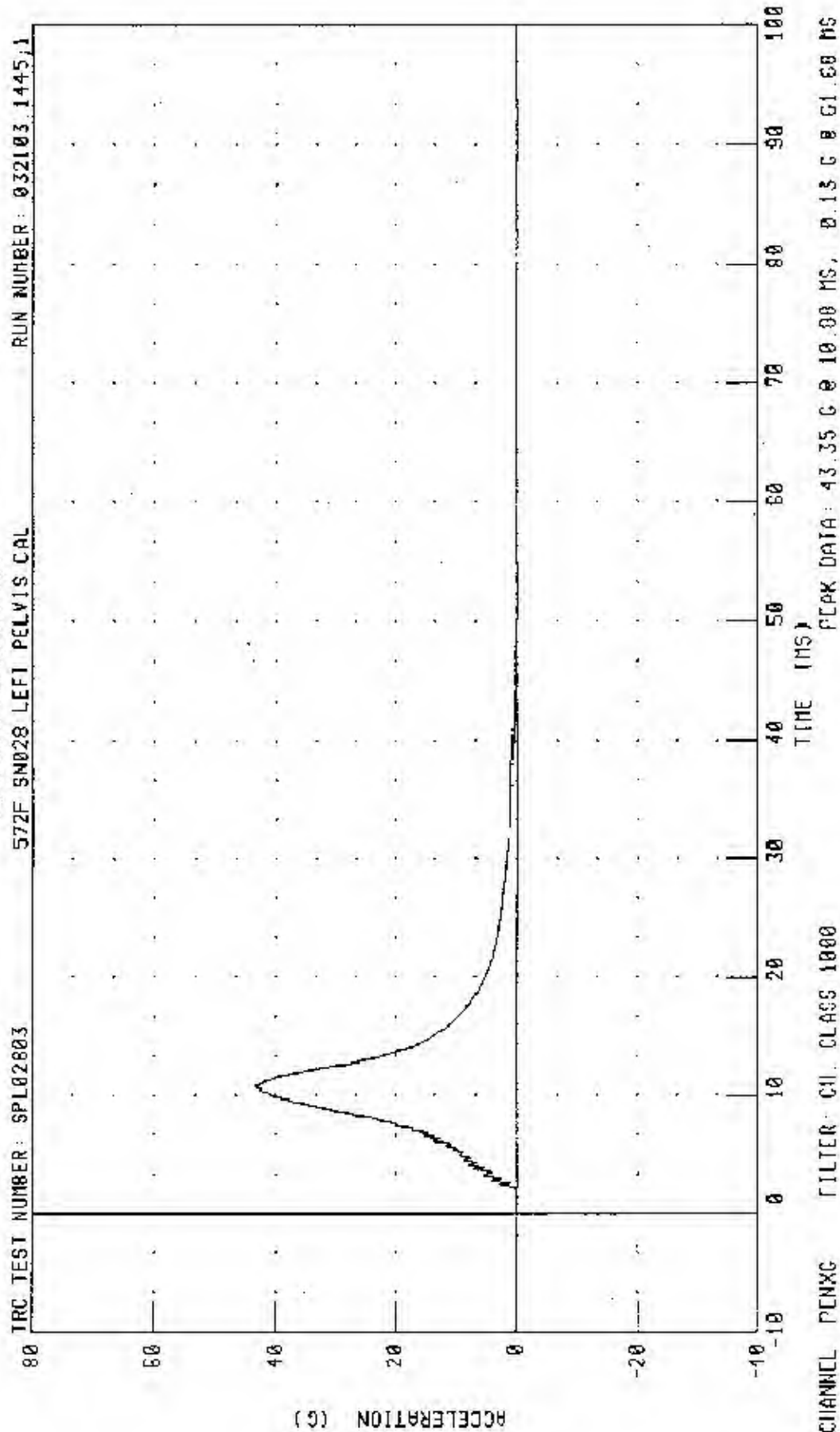
TIME (ms)

PEAK DATA: 45.50 G @ 10.63 MS; -11.72 G @ 22.50 MS

ACCELERATION (G)

# PART 572-F S.I.D. PELVIS CALIBRATION - (LEFT SIDE IMPACT)

## PENDULUM DECELERATION





## Calibration Test Results

Post-Test

SID: 065

Configured for Left Side Impact

External Dimensions:	The dummy passed all external dimension requirements.
Lateral Head Drop Test:	The head passed all lateral drop test requirements.
Lateral Neck Test:	The neck passed all impact test requirements.
Lateral Thorax Impact Test:	The thorax passed all impact test requirements.
Thoracic Shock Absorber Test:	The thoracic shock absorber was not tested at this time.
Lumbar Flexion Test:	The dummy met the lumbar flexion test requirements.
Abdominal Compression Test:	The abdomen met the compression test requirements.
Pelvis Impact Test:	The lateral pelvis passed all impact test requirements.

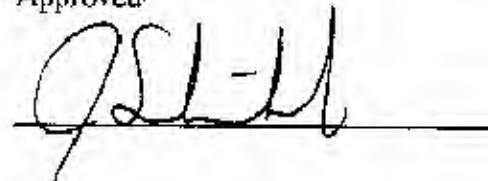
**Transportation Research Center Inc.**  
**572F SID Dummy**  
**External Dimensions**  
**Serial No. 065    Calibration No. 06**

Test Parameter	Dimension	Specification	Results	Pass
Seated Height	SH	889.0 - 909.3 mm	897 mm	Yes
Rib Height	RH	501.7 - 520.7 mm	511 mm	Yes
Hip Pivot Height	HP	99.1 REF mm	99.1 mm	
Rib From Backline	RD	228.6 - 241.3 mm	236 mm	Yes
Knee Pivot From Backline	KH	510.5 - 525.8 mm	514 mm	Yes
Knee Pivot From Floor	KV	490.2 - 505.5 mm	497 mm	Yes
Hip Width	HW	355.6 - 391.2 mm	373 mm	Yes
Top Rib Width From CVL	RW-1	165.1 - 180.3 mm	170 mm	Yes
Bottom Rib Width From CVL	RW-2	165.1 - 180.3 mm	171 mm	Yes
Difference Between Top & Bottom Rib Width from CVL		$\leq$ 2.5 mm	1.0 mm	Yes

Technician



Approved



**TRE**

TRANSPORTATION RESEARCH CENTER INC.

LATERAL HEAD DROP TEST

HYBRIDIII SID DUMMY

24-MAR-03

LEFT SIDE CONFIGURATION

TRC INC.

TEST NO. HDL06506

H3/SID SN065 HEAD DROP CAL06

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE	18.9 - 25.6 deg. C	21.67 deg. C
RELATIVE HUMIDITY	10 - 70 %	44.00 %
PEAK RESULTANT ACCELERATION	120 - 150 G	141.44 G
PEAK LONGITUDINAL ACCELERATION	15 G MAX	5.46 G
IS ACCELERATION CURVE UNIMODAL?	YES	YES

TEST MEETS SPECIFICATIONS

TECHNICIAN



RUN NUMBER: 032403.0753;1

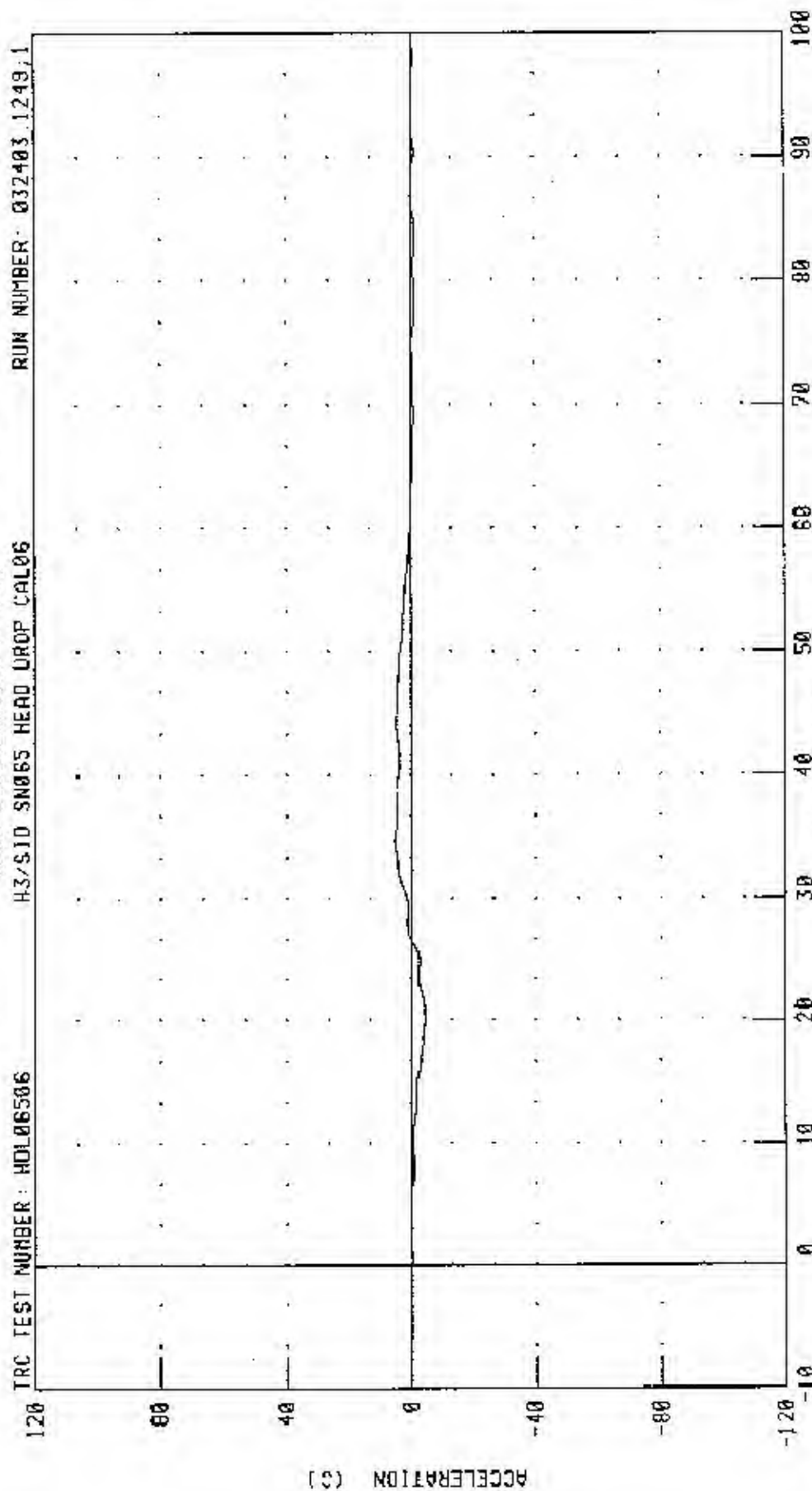
# BIOSED GUNNY CALIBRATION -- 35 DEGREE LEFT LATERAL HEAD DROP

HEAD ACCELERATION X AXIS

TRC TEST NUMBER: H0106506

H3/SID SN065 HEAD DROP CAL06

RUN NUMBER: 032403.1249.1



PEAK DATA: 5.16 G @ 3.14 MS, -4.25 G @ 2.08 MS

CHANNEL HEDXC FILTER CH. CLASS 1000



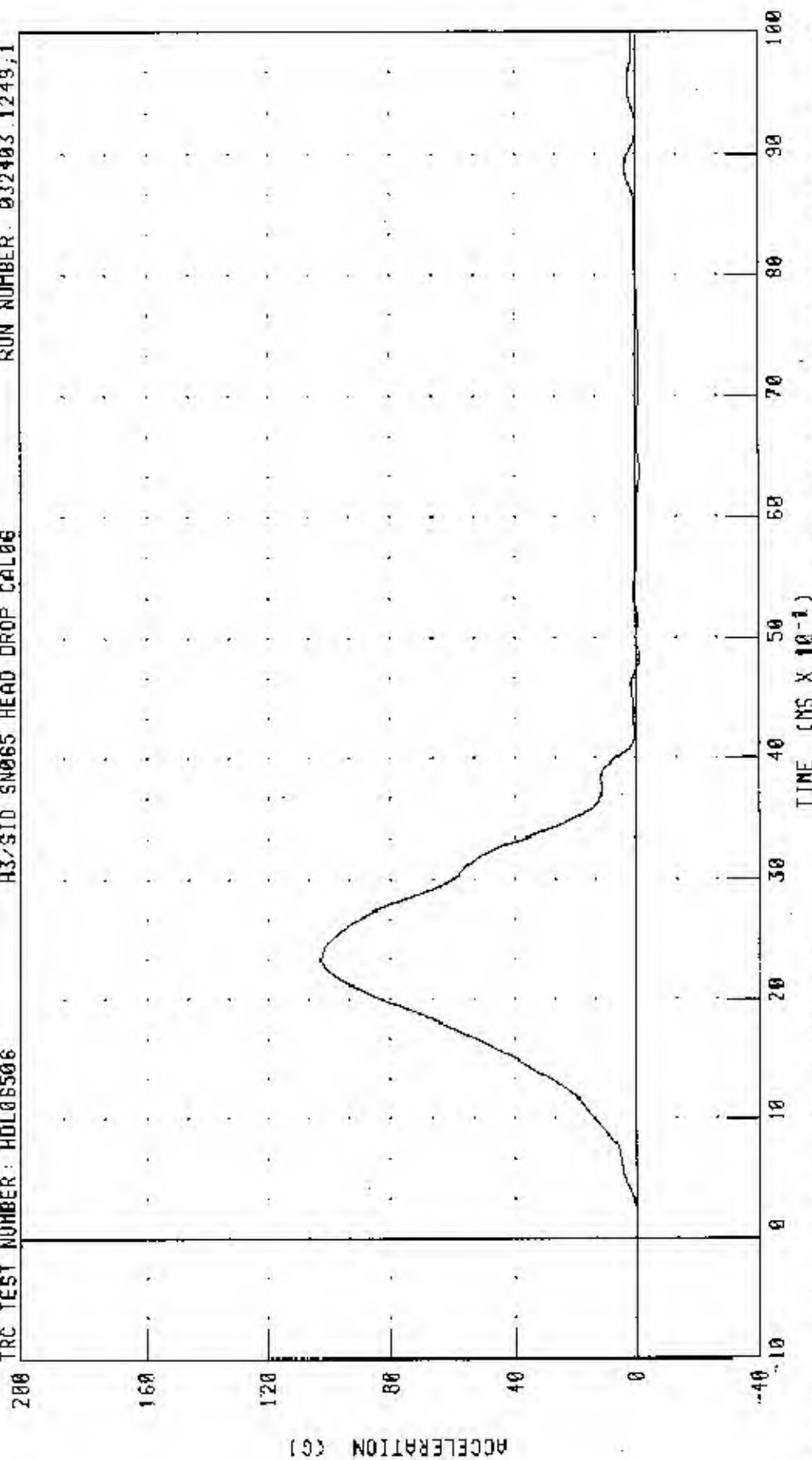
# BIOSID DUMMY CALIBRATION -- 35 DEGREE LEFT LATERAL HEAD DROP

HEAD ACCELERATION Y AXIS

TRC TEST NUMBER: HDL06506

H3/SID SN065 HEAD DROP CAL06

RUN NUMBER: 032403.1249.1



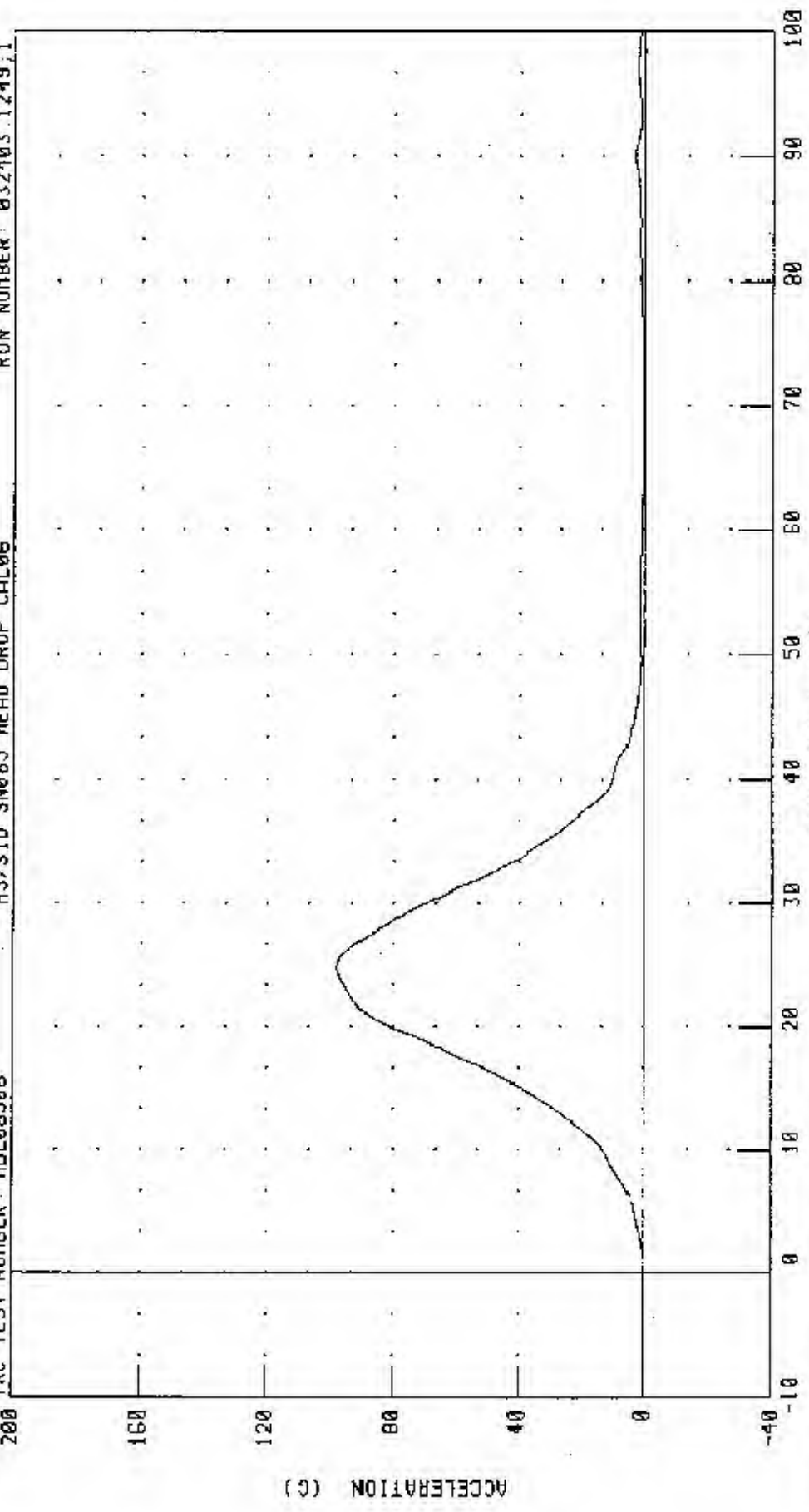
PEAK DATA: 102.94 G @ 2.32 MS; -1.60 G @ 6.40 MS

CHANNEL HEDYC FILTER: CH CLASS 1000

# BIOSID DUMMY CALIBRATION -- 35 DEGREE LEFT LATERAL HEAD DROP

HEAD ACCELERATION 7 AXIS

TRC TEST NUMBER: HDL06506      H3/SID SN065 HEAD DROP CAL06      RUN NUMBER: 032403.1249.1



CHANNEL: HEDZG      FILTER: CH. CLASS 1000      TIME (MS X 10<sup>-1</sup>)      PEAK DATA: 58.39 G @ 2.40 MS, -0.06 G @ -0.80 MS

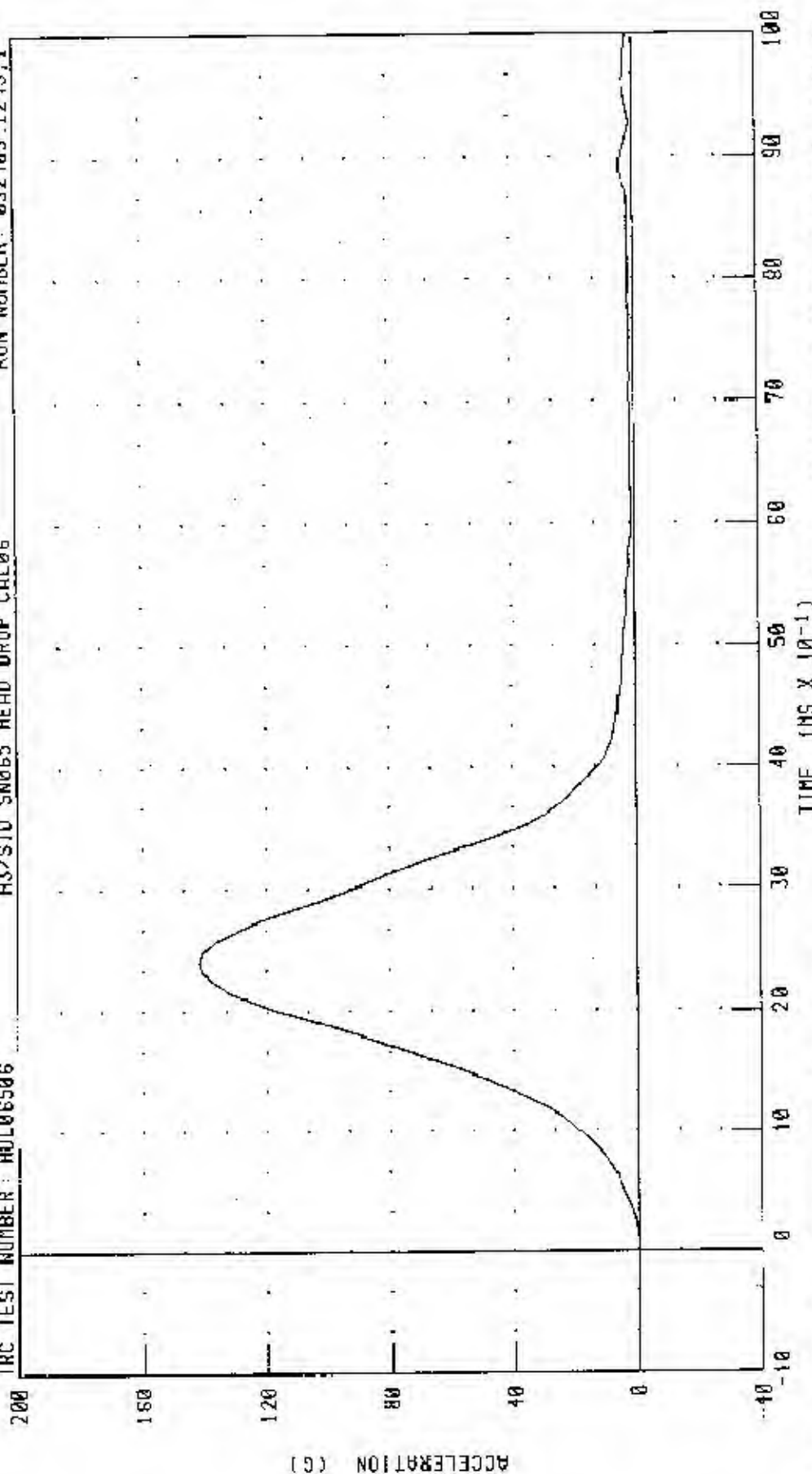
# BIOSID DUMMY CALIBRATION 35 DEGREE LEFT LATERAL HEAD DROP

HEAD RESULTANT ACCELERATION

H3/S10 SNOB5 HEAD DROP CAL06

TRC TEST NUMBER: H0106506

RUN NUMBER: 032403.1249.1



CHANNEL HEADRG FILTER LH CLASS 1000

PEAK DATA 141.44 G @ 2.40 MS, 0.01 G @ -0.96 MS

## TRANSPORTATION RESEARCH CENTER INC.

## LATERAL NECK TEST

## HYBRID-III SID DUMMY

24-MAR-03

## LEFT SIDE CONFIGURATION

TRC INC.

TEST NO. NFL06506

H3/SID SN065 NECK LEFT CAL06

TEST PARAMETER		SPECIFICATION	TEST RESULTS
TEMPERATURE		20.6 - 22.2 deg. C	21.67 deg. C
RELATIVE HUMIDITY		10 - 70 %	44.00 %
IMPACT VELOCITY		6.89 - 7.13 M/S	7.06 M/S
INTEGRATED VELOCITY	10 MS	1.96 - 2.55 M/S	2.28 M/S
	20 MS	4.12 - 5.10 M/S	4.50 M/S
	30 MS	5.73 - 7.01 M/S	6.39 M/S
	40 - 70 MS	6.27 - 7.64 M/S	7.16 - 7.26 M/S
MAXIMUM MIDSAGGITAL PLANE ROTATION		66 - 82 deg.	75.27 deg.
ROTATION ANGLE DECAY TIME FROM PEAK TO ZERO		58 - 67 MS	62.16 MS
MAXIMUM MOMENT ABOUT OCCIPITAL CONDYLE		73 - 88 NM	79.34 NM
POSITIVE MOMENT DECAY TIME FROM PEAK TO ZERO		49 - 64 MS	54.72 MS
TIME OF MAXIMUM ROTATION AFTER MAXIMUM MOMENT		2 - 16 MS	9.84 MS

TEST MEETS SPECIFICATIONS

TECHNICIAN 

RUN NUMBER: 032403.0931;1



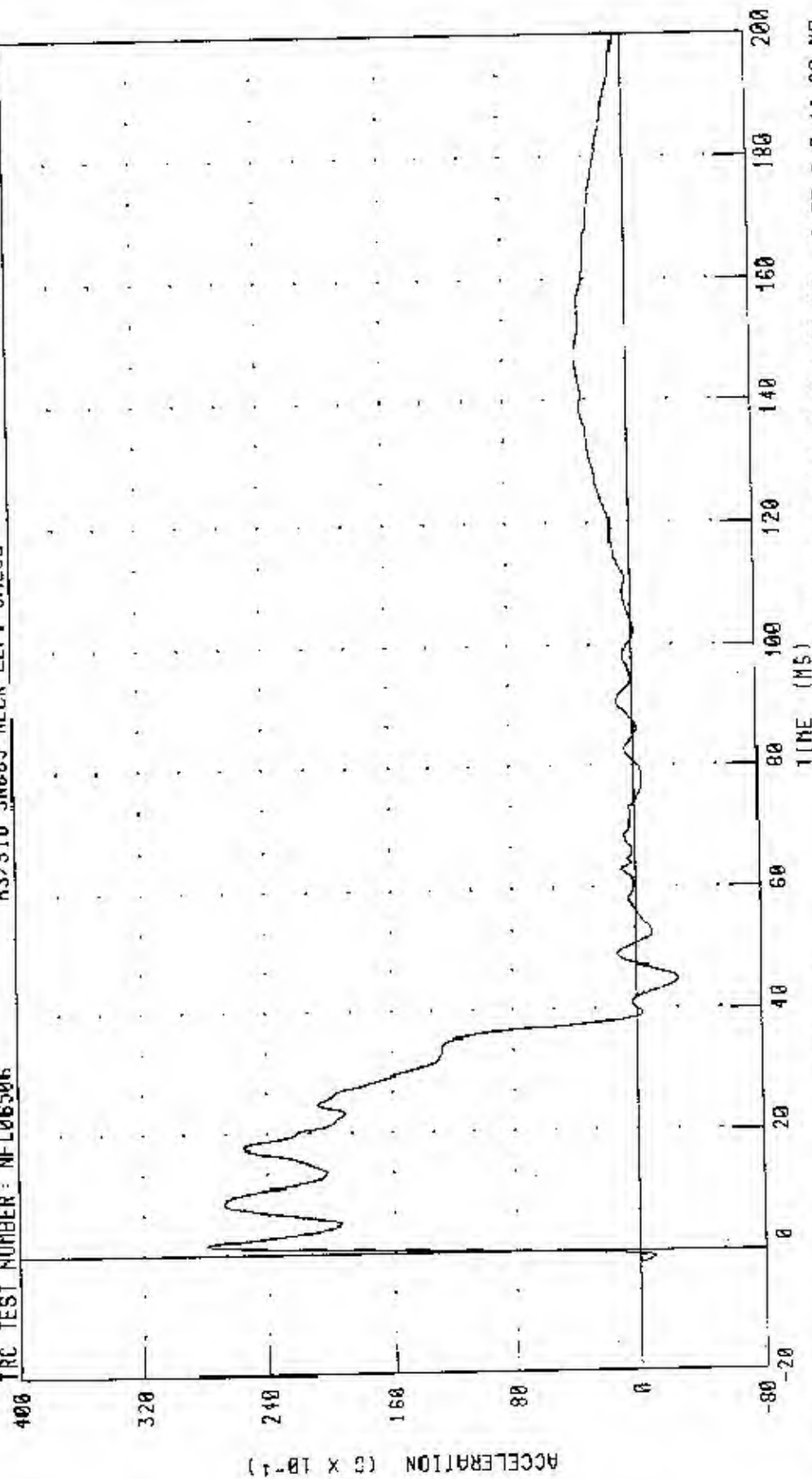
# H3/SID DUMMY CALIBRATION -- LEFT LATERAL NECK TEST

PENDULUM DECELERATION

H3/SID SN065 NECK LEFT CAL06

RUN NUMBER: 032403 0932.1

TRC TEST NUMBER: NFL06506



PEAK DATA: 27.94 G @ 1.60 MS, -2.75 G @ 41.80 MS

CHANNEL: PENKG FILTER: CIL CLASS 100

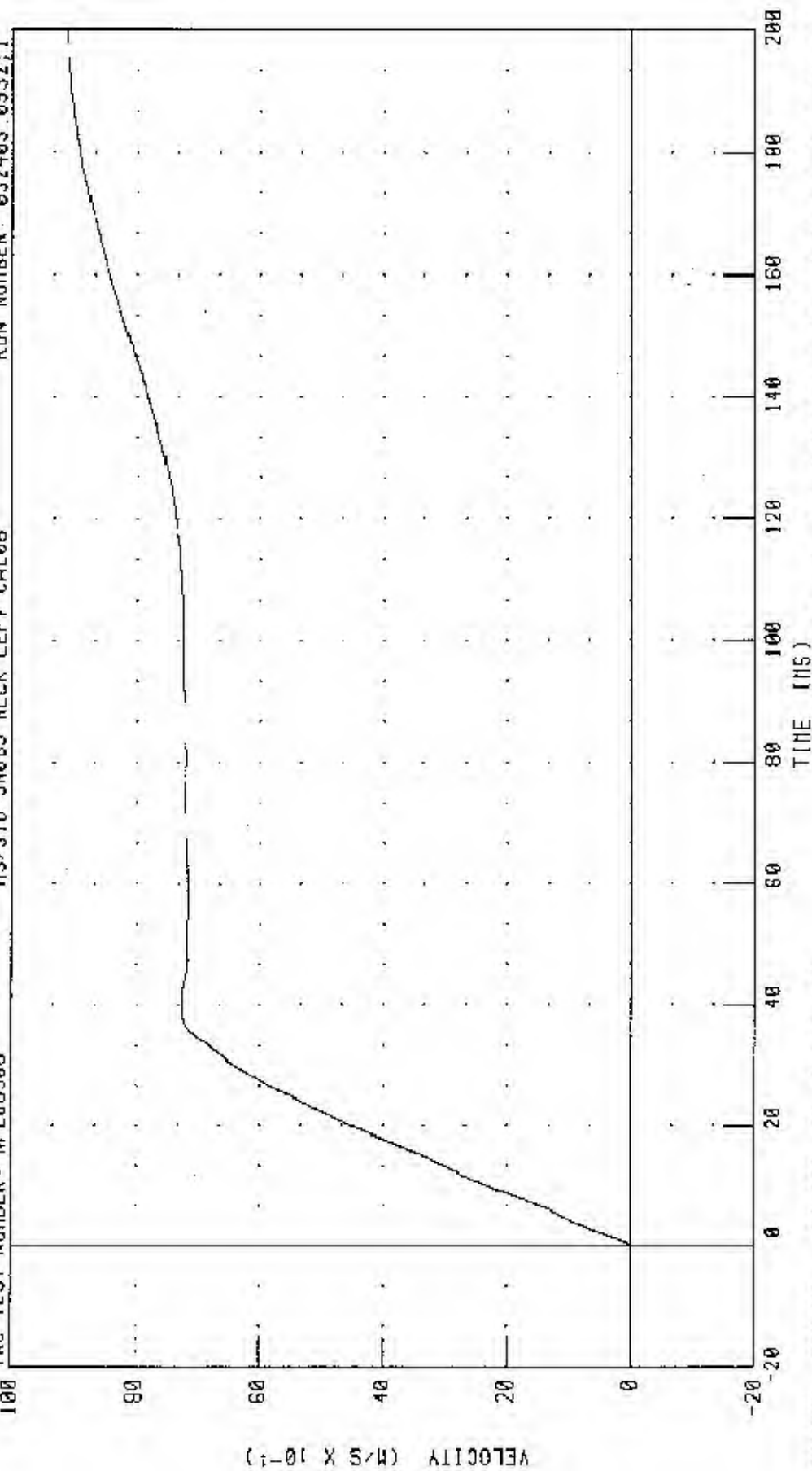
# H3/S10 DUMMY CALIBRATION -- LEFT LATERAL NECK TEST

INTEGRATED PENDULUM VELOCITY

H3/S10 5N065 NECK LEFT CAL06

TRC TEST NUMBER = NFL06506

RUN NUMBER: 032403 0932.1



PEAK DATA 9 13 M/S 0 200 00 MS; -0 01 M/S 0 -0 56 MS

CHANNEL PENXVI FILTER CH. CLASS 180

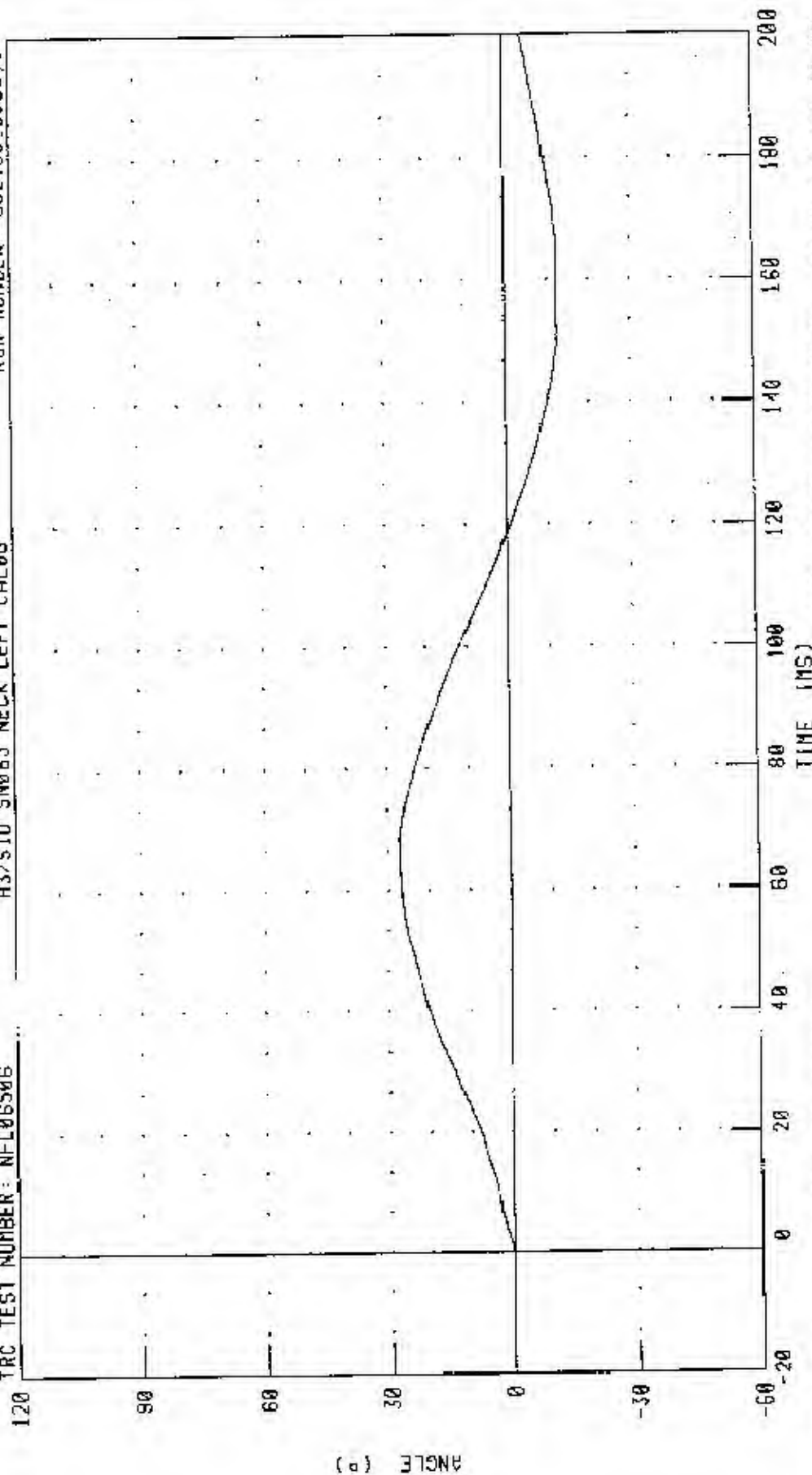
# H3/SID DUMMY CALIBRATION -- LEFT LATERAL NECK TEST

ROTATION ABOUT BASE OF NECK

H3/SID SN065 NECK LEFT CAL06

RUN NUMBER: 032403-0932.1

TRC TEST NUMBER: NFE06506



TIME (MS)

PEAK DATA: 27.28 ° @ 66.32 MS; -12.38 ° @ 157.36 MS

CHANNEL: BETA FILTER: CH. CLASS 60

ANGLE (°)

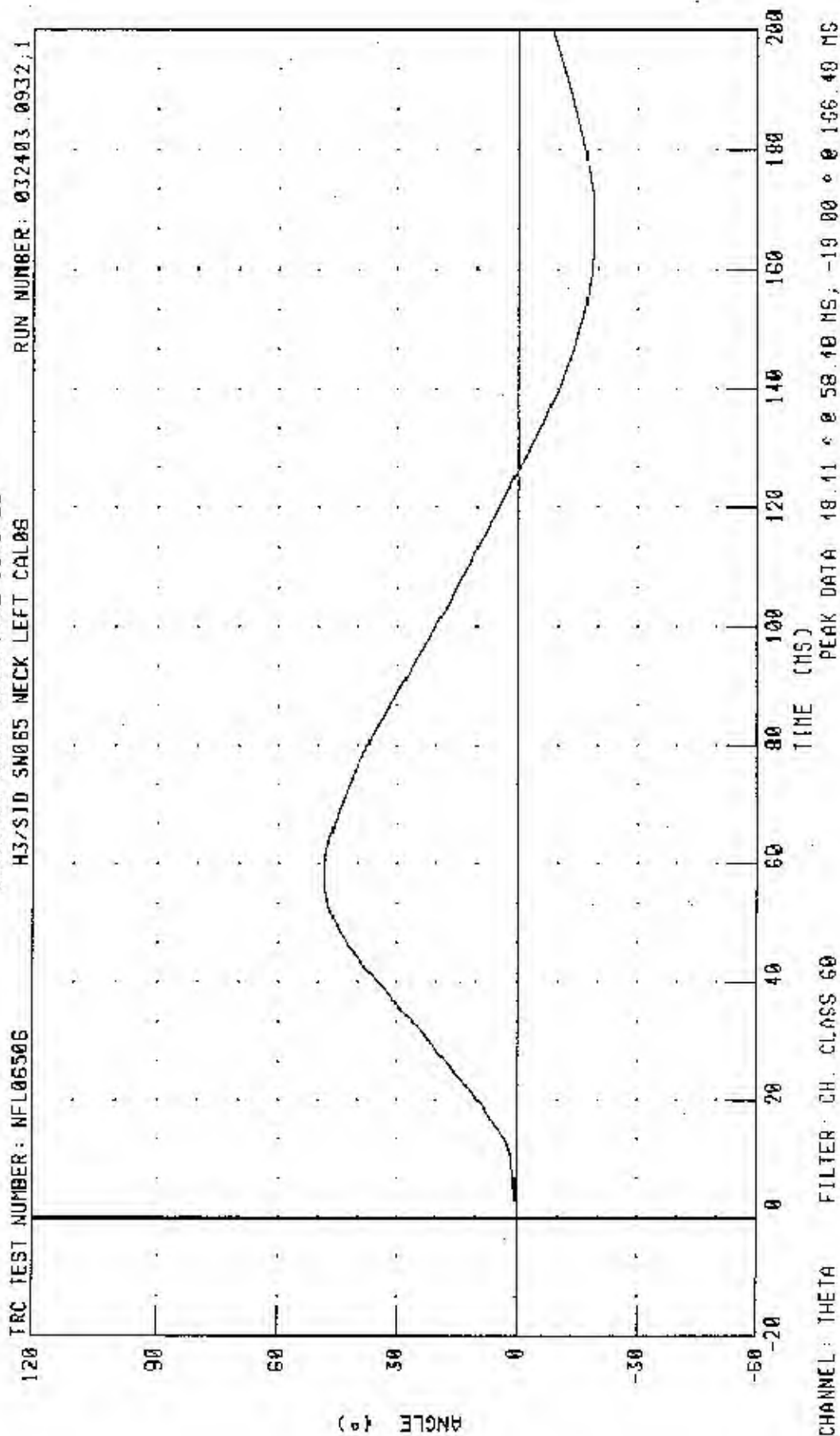
# H3/SID DUMMY CALIBRATION -- LEFT LATERAL NECK TEST

ROTATION ABOUT OCCIPITAL CONDYLE

TRC TEST NUMBER: NFL06506

H3/SID SN065 NECK LEFT CAL06

RUN NUMBER: 032403.0932,1



CHANNEL: THETA FILTER: CH. CLASS 60

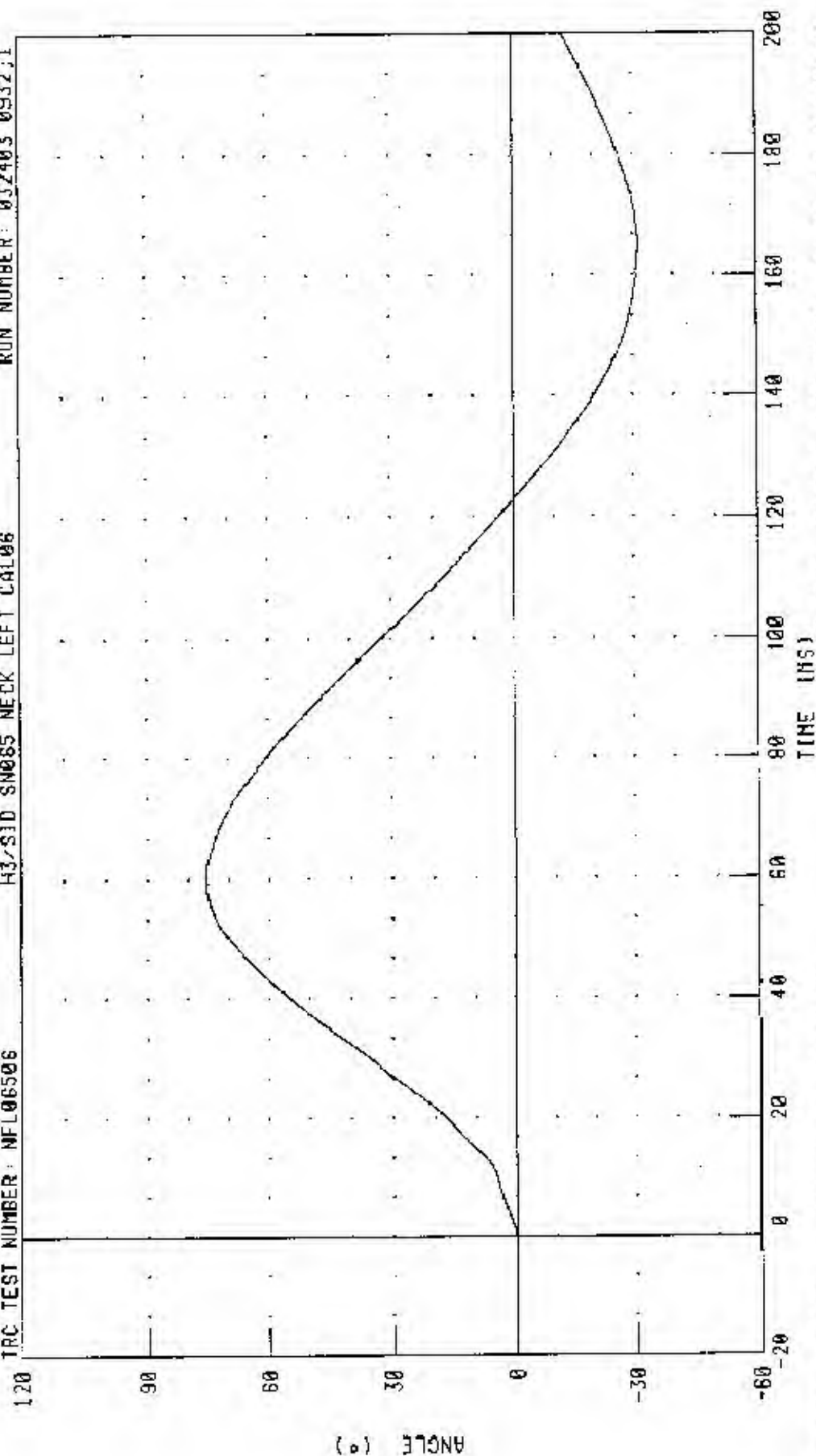
# H3/S1D DUMMY CALIBRATION -- LEFT LATERAL NECK TEST

TOTAL ROTATION

TRC TEST NUMBER: NFO6506

H3/S1D SN065 NECK LEFT CAL06

RUN NUMBER: 032403 0932.1



CHANNEL: IOTAN FILTER: CH. CLASS 60

PEAK DATA: 75.27 ° @ 60.72 MS; -31.24 ° @ 165.20 MS



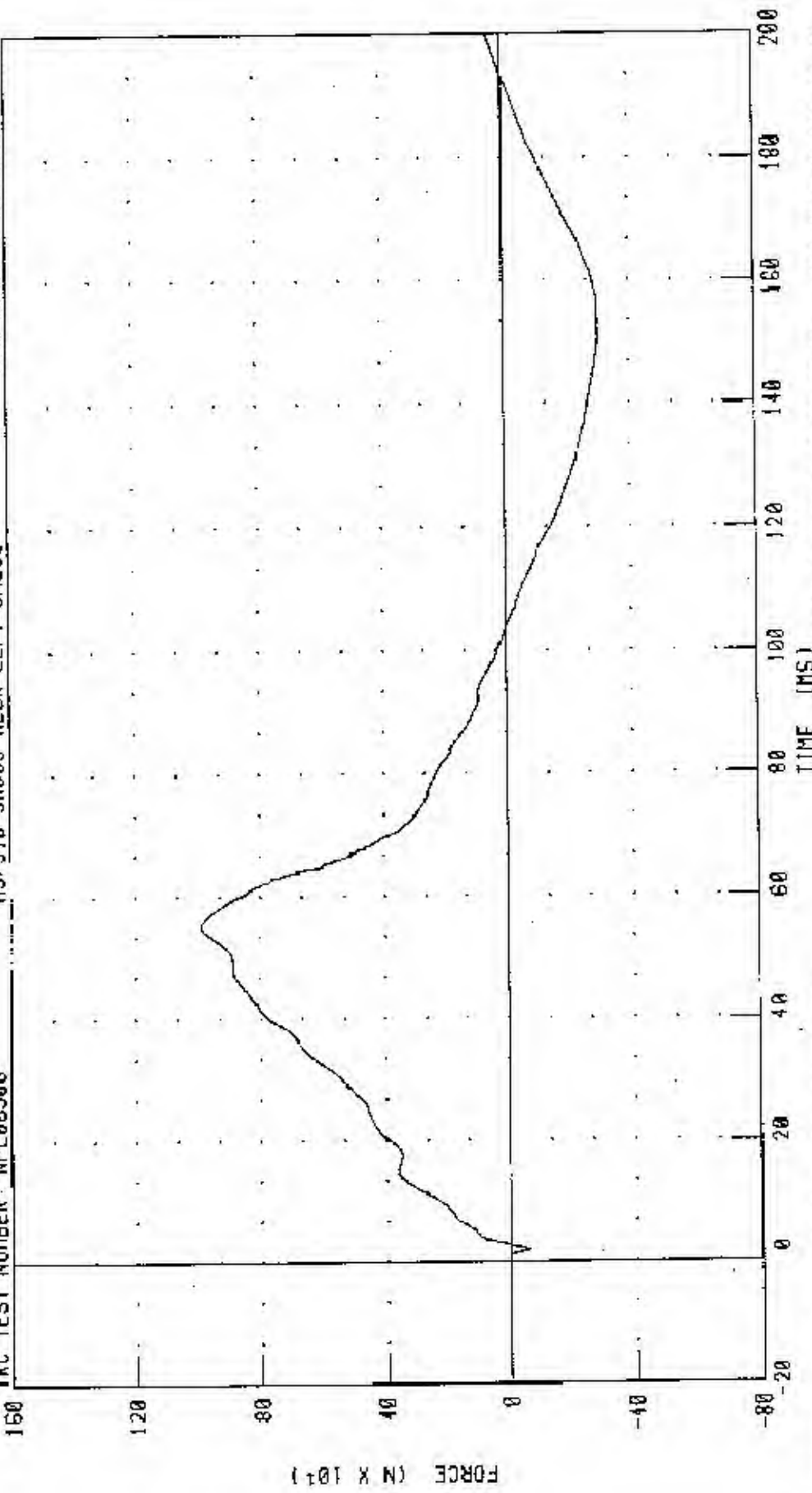
# H3/SID BUNNY CALIBRATION -- LEFT LATERAL NECK TEST

NECK FORCE Y AXIS

RUN NUMBER: 032403.0932.1

H3/SID SN065 NECK LEFT CAL06

TRC TEST NUMBER: NFL06506



PEAK DATA: 990.89 N @ 55.36 MS; -304.20 N @ 153.44 MS

CHANNEL: NEKYF FILTER: CIL CLASS 1000

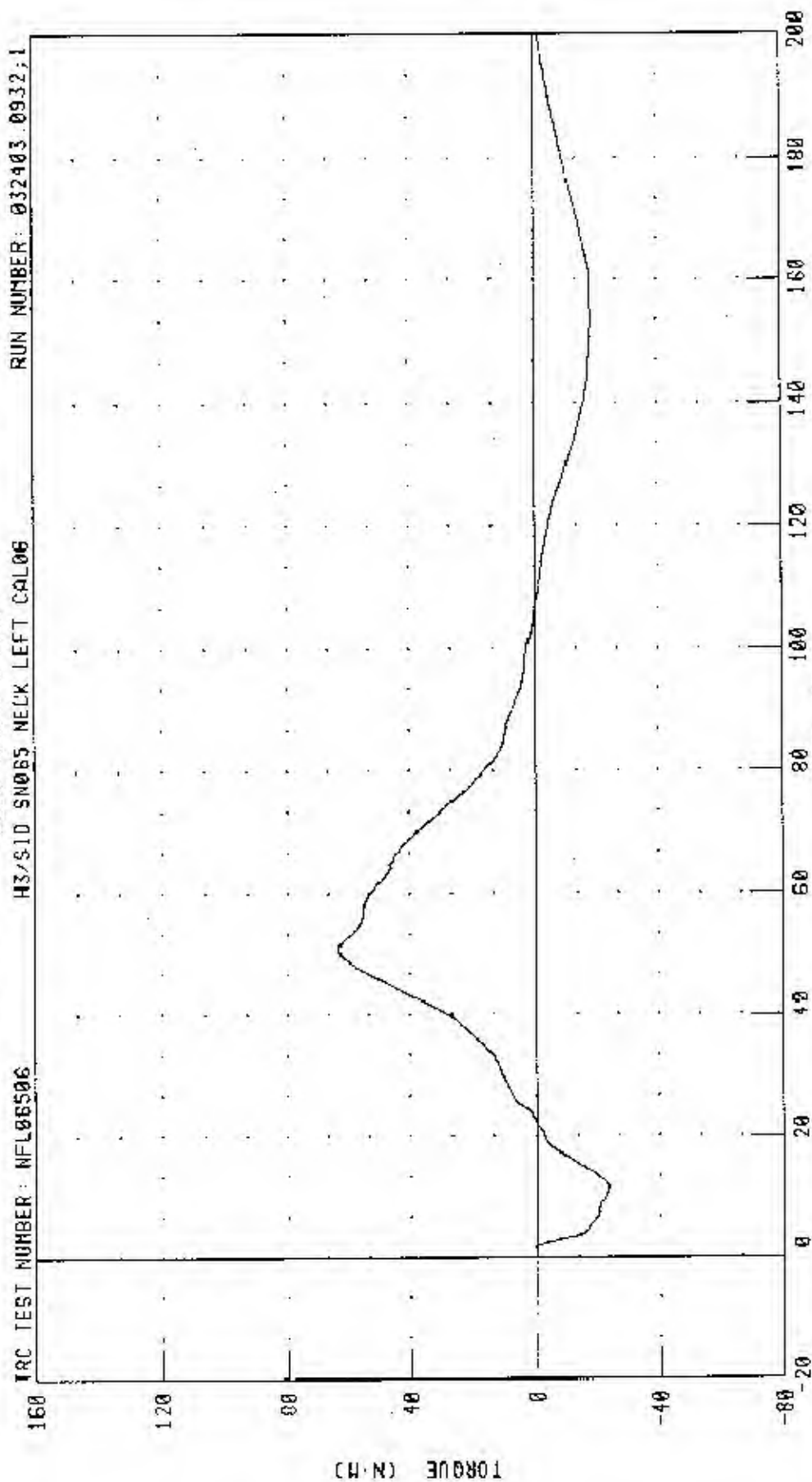
# 113/SID DUMMY CALIBRATION -- LEFT LATERAL NECK TEST

NECK MOMENT X AXIS

113/SID SN055 NECK LEFT CAL06

TRC TEST NUMBER: NFL06506

RUN NUMBER: 032403.0932;1

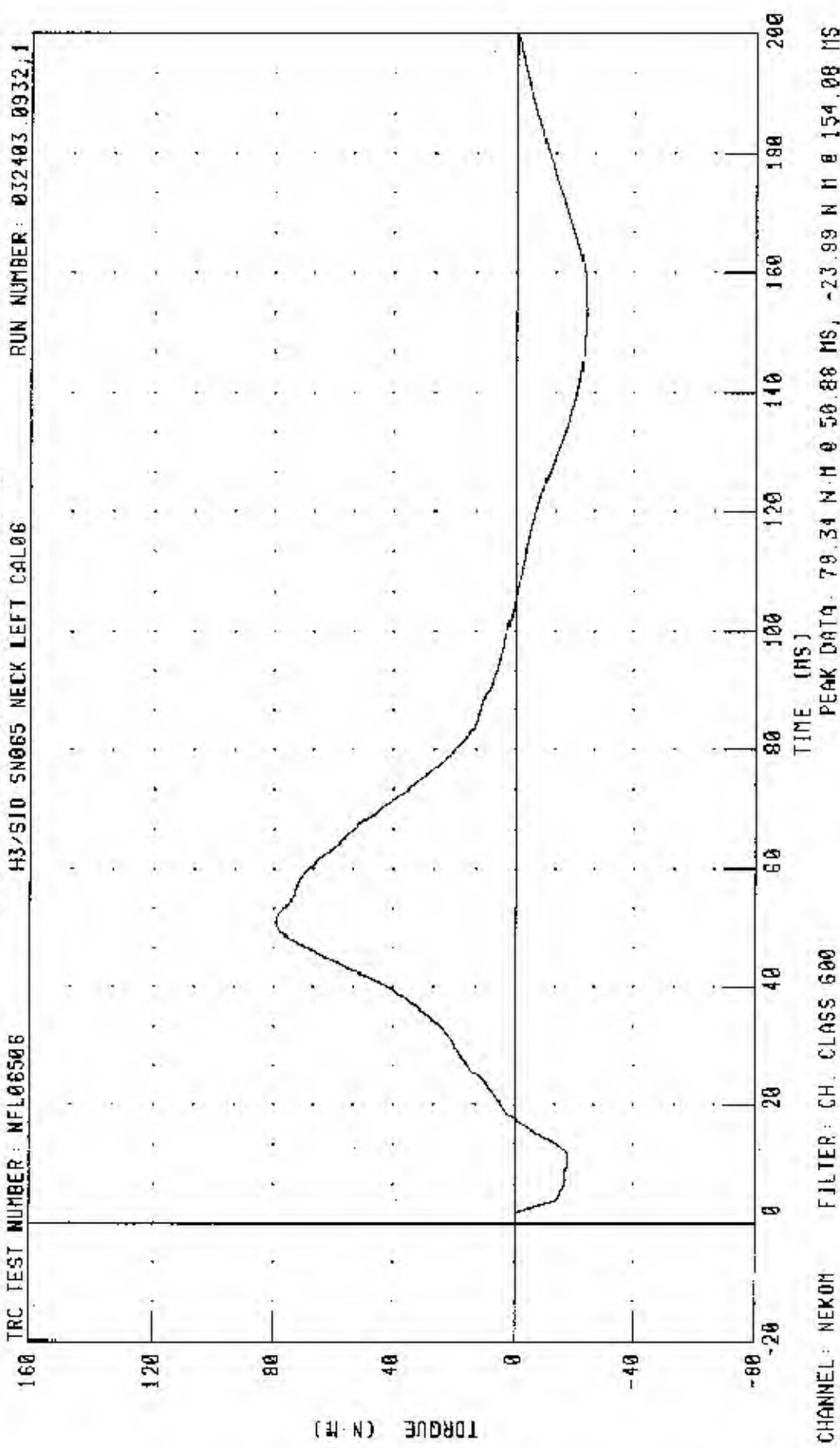


TIME (MS)

PEAK DATA: 63.30 N.M @ 50.72 MS, -23.17 N.M @ 11.60 MS

CHANNEL: NEKX1 FILTER: CH CLASS 600

# H3/S10 DUMMY CALIBRATION -- LEFT LATERAL NECK TEST TOTAL MOMENT ABOUT OCCIPITAL CONDYLE



TRANSPORTATION RESEARCH CENTER INC.

LATERAL THORAX IMPACT TEST

SIDE IMPACT DUMMY

21-MAR-03

LEFT SIDE CONFIGURATION

TRC INC.

TEST NO: STL06506A

572F SID SNO65 L.THORAX CAL06

TEST PARAMETER	SPECIFICATION (ABSOLUTE VALUE)	TEST RESULTS
TEMPERATURE	18.9 - 25.5 C	21.7 DEG. C
RELATIVE HUMIDITY	10 - 70 %	47.0 %
PENDULUM VELOCITY	4.21 - 4.33 M/S	4.30 M/S
PEAK ACCELERATION: UPPER RIB BAR	37 - 46 G	40.9 G
PEAK ACCELERATION: LOWER RIB BAR	37 - 46 G	38.6 G
PEAK ACCELERATION: LOWER THORACIC SPINE	15 - 22 G	19.2 G

TEST MEETS SPECIFICATIONS

TECHNICIAN 

RUN NUMBER: 032103.1046;1

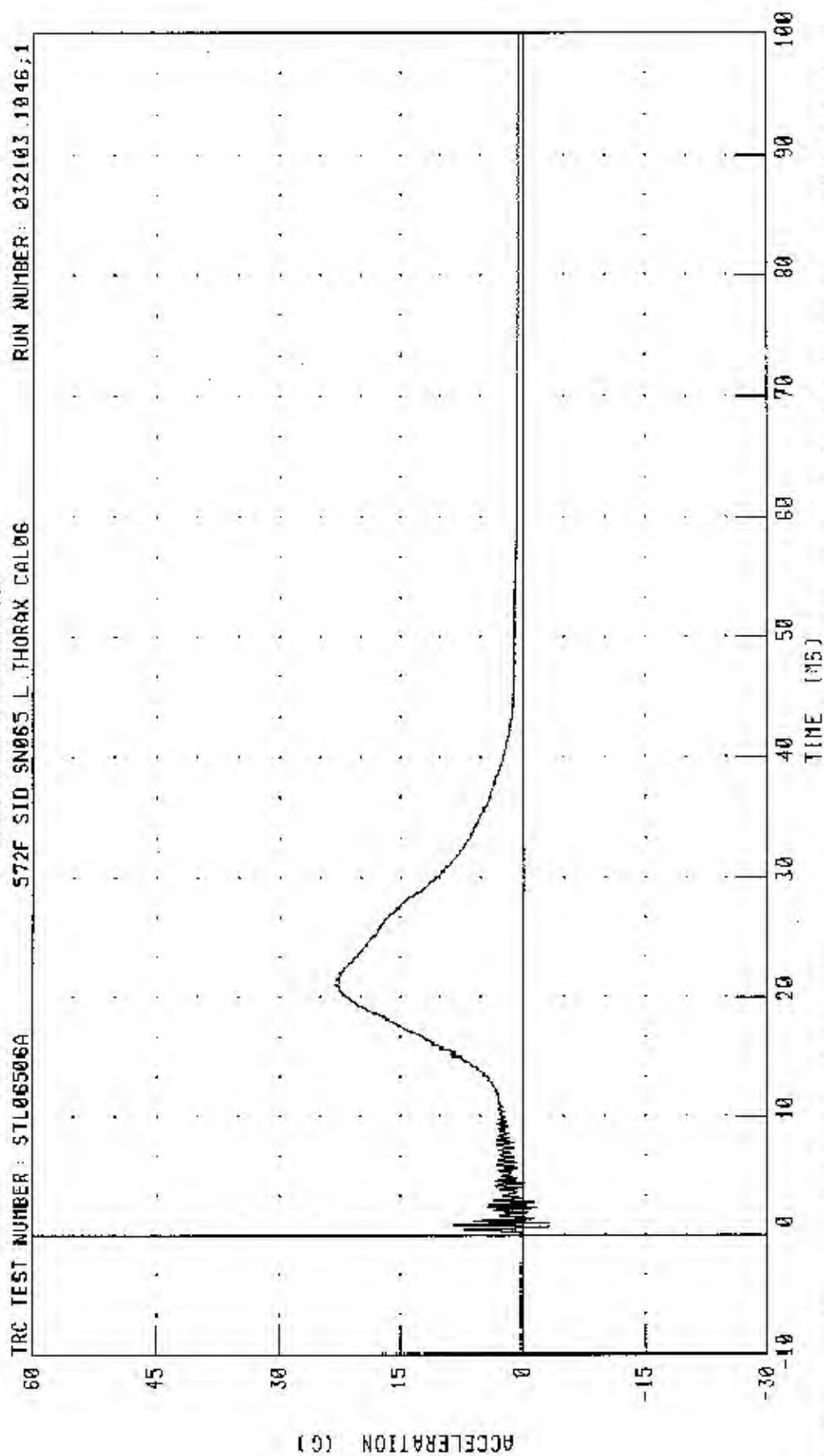
# PART 572-F S.1.0. THORAX CALIBRATION - (LEFT SIDE IMPACT)

PENDULUM DECELERATION

TRC TEST NUMBER: STL06506A

572F SID SN065 L THORAX CAL06

RUN NUMBER: 032103.1046.1



CHANNEL: PENXC FILTER: CH. CLASS 1000

PEAK DATA: 23.11 G @ 21.52 MS, -3.59 G @ 52.72 MS



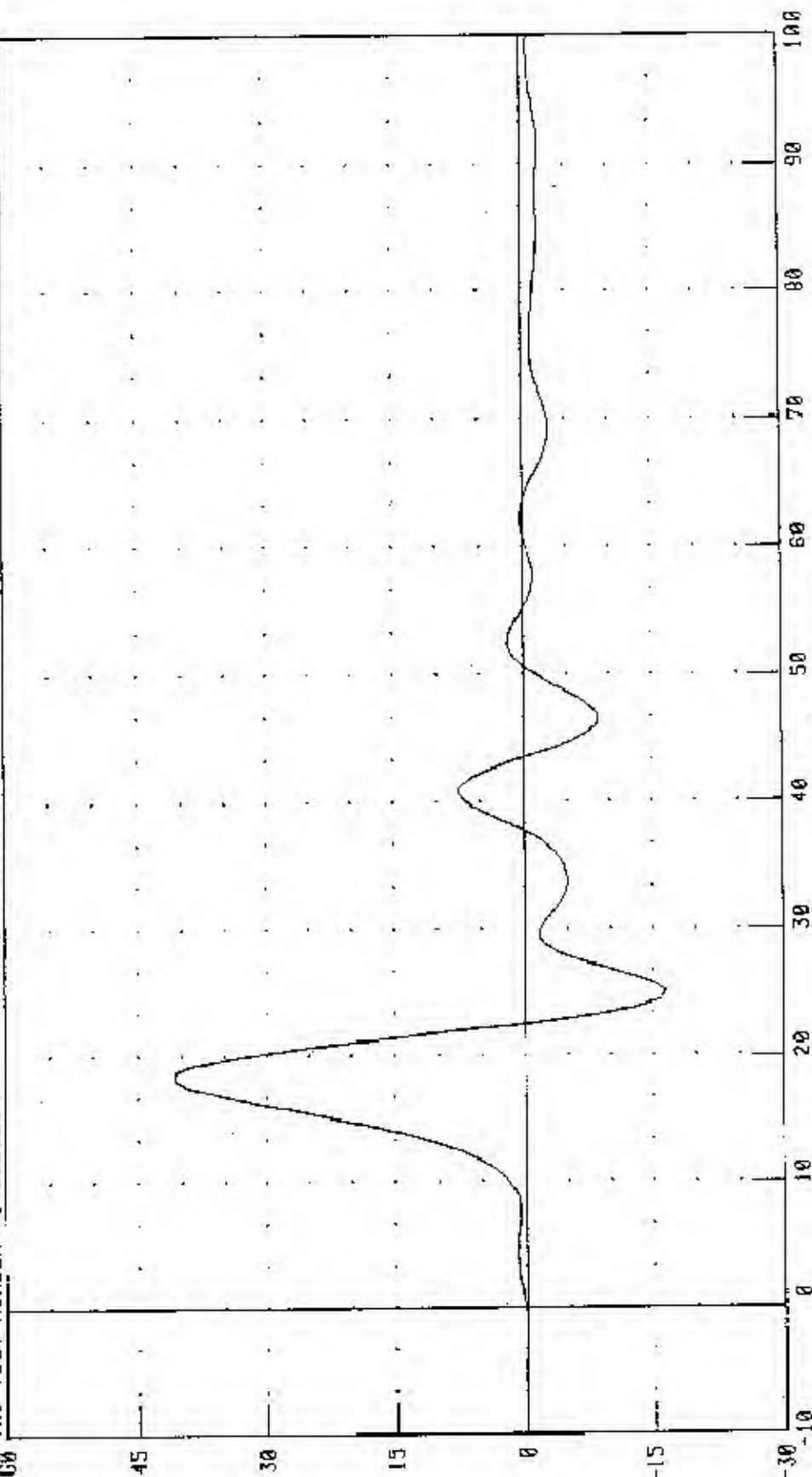
# PART 572-F S.I.D. THORAX CALIBRATION - (LEFT SIDE IMPACT)

LEFT UPPER RIB ACCELERATION Y AXIS

RUN NUMBER: 032103.1046.1

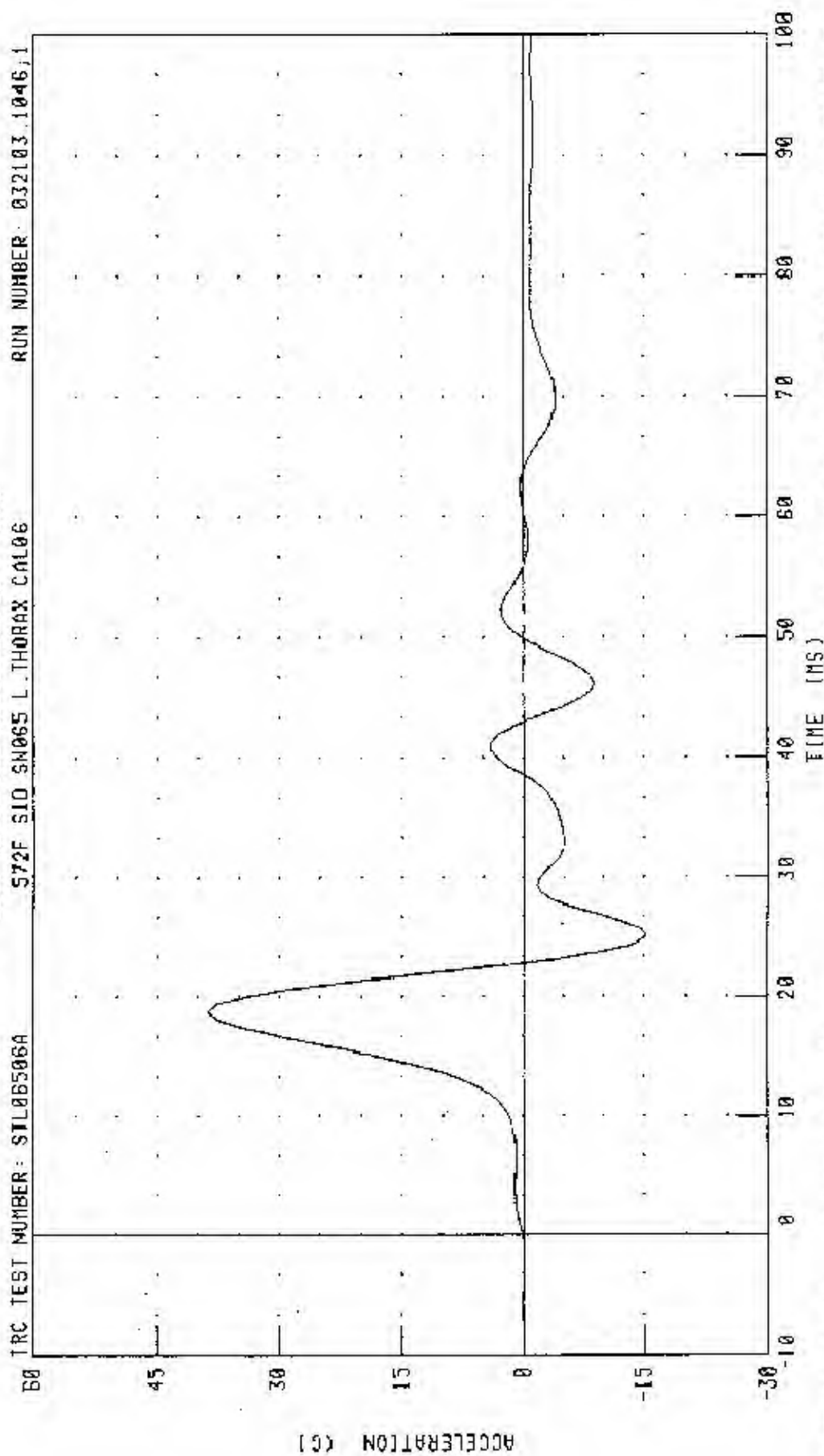
TRC TEST NUMBER: 572F SID SN065 L THORAX CAL06

60



(G) ACCELERATION

PART 572-F S I.D. THORAX CALIBRATION - (LEFT SIDE IMPACT)  
LEFT LOWER RIB ACCELERATION Y AXIS



RUN NUMBER: 032103.1046.1

572F SIO SN065 L THORAX CAL06

IRC TEST NUMBER: S1L06506A

PEAK DATA: 38.65 G @ 18.75 MS; -15.30 G @ 25.00 MS

CHANNEL: LLRYG FILTER: FIR 100

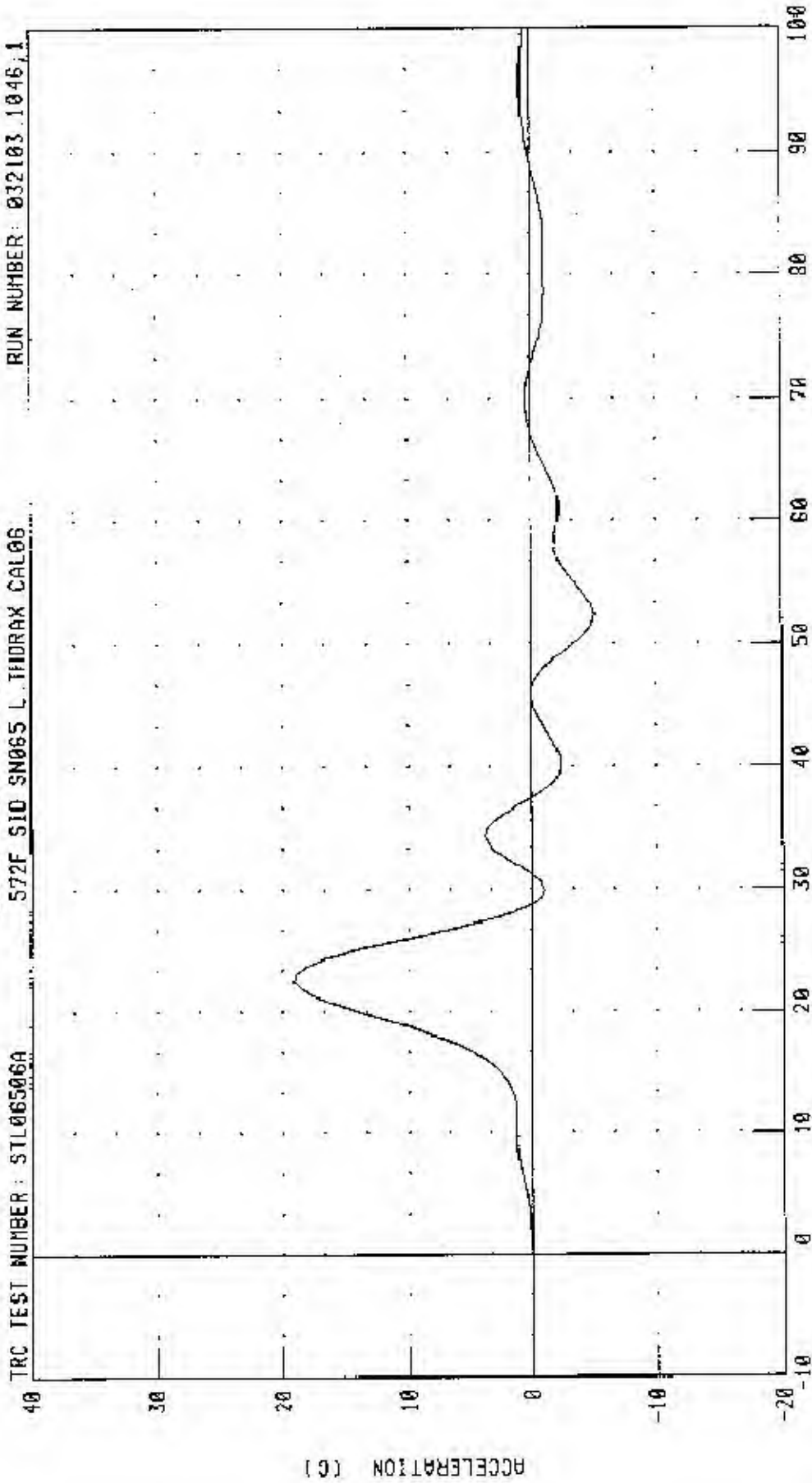
PART 572-F S.I.D. THORAX CALIBRATION - (LEFT SIDE IMPACT)

LOWER SPINE ACCELERATION Y AXIS

572F SID SN065 L THORAX CAL06

RUN NUMBER: 032103.1046.1

TRC TEST NUMBER: STL06506A



PEAK DATA: 19.10 0 22.50 MS, -5.00 G 52.50 MS

CHANNEL: T12YC FILTER: FIR 100

# Transportation Research Center Inc.

572B Abdomen Compression Test

HIII SID Serial No. 065 Calibration No. 06 - 1

Test Date 03/21/2003

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.5 °C	21.7 °C	Yes
Relative Humidity	10 - 70 %	46 %	Yes
Displacement Rate	6.35 - 8.89 mm/s	7.0 - 8.4 mm/s	Yes
Data Within Required Corridor	Yes	Yes	Yes

Comments:

Technician



Approved



03/21/2003 14:23:24 10

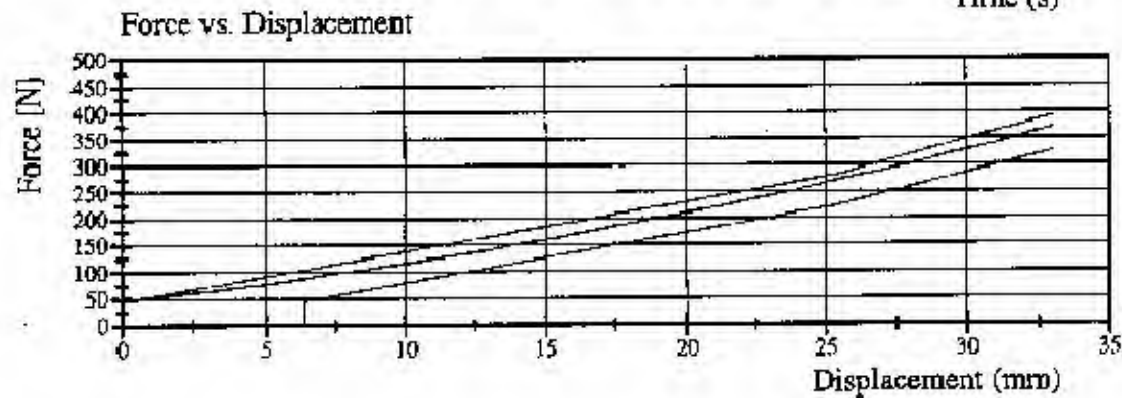
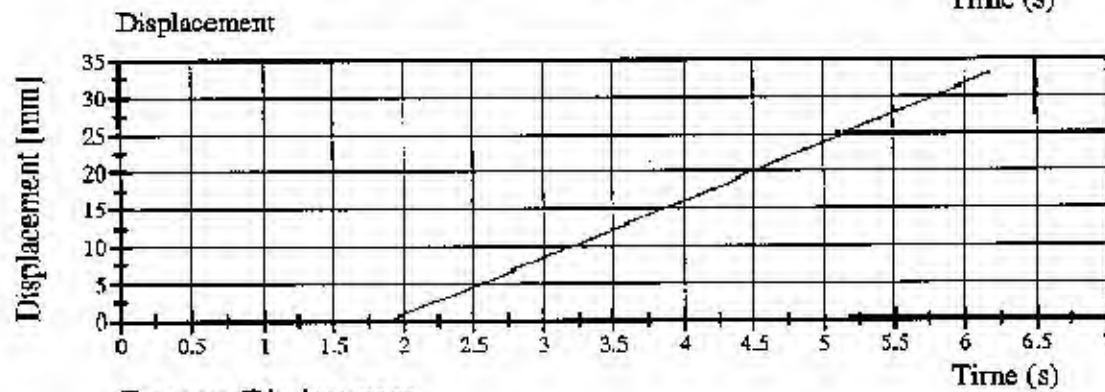
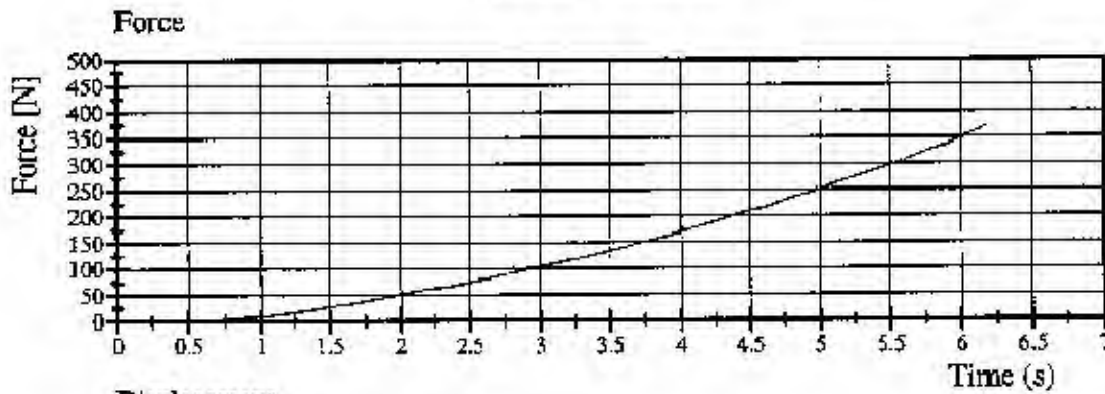


# Transportation Research Center Inc.

572B Abdomen Compression Test

HIII SID Serial No. 065 Calibration No. 06 - 1

Test Date 03/21/2003



03.21.2003 14:23:25 10

TRE



**TRANSPORTATION RESEARCH CENTER INC.**

**LUMBAR FLEXION TEST**

**SID PART 572B**

**CAL DATE: 27-Feb-03**

**TRC, INC.**

**TEST NO: 065C06TF1**

**572B SN 065 TORSO FLEX CAL 06**

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE	18.9 - 25.6° C	21.1 °C
RELATIVE HUMIDITY	10 - 70 %	45 %
FORCE AT 0 DEG. FLEXION	-27 - 27 N	0 N
FORCE AT 20 DEG OF FLEXION	98 - 151 N	120.1 N
FORCE AT 30 DEG OF FLEXION	151 - 205 N	186.8 N
FORCE AT 40 DEG OF FLEXION	205 - 258 N	226.7 N
NET RETURN ANGLE AFTER 3 MINUTES	< 12 °	8 °

**TEST MEETS SPECIFICATIONS**

**TECHNICIAN**



TRANSPORTATION RESEARCH CENTER INC.

LATERAL PELVIS IMPACT TEST

SIDE IMPACT DUMMY

21-MAR-03

LEFT SIDE CONFIGURATION

TRC INC.

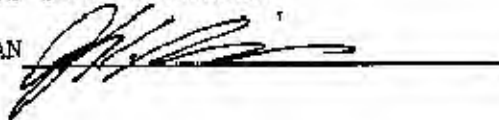
TEST NO: SPL06506

572F SN065 LEFT PELVIS CAL06

TEST PARAMETER	SPECIFICATION (ABSOLUTE VALUE)	TEST RESULTS
TEMPERATURE	18.9 - 25.5 C	21.7 DEG. C
RELATIVE HUMIDITY	10 - 70 %	47.0 %
PENDULUM VELOCITY	4.21 - 4.33 M/S	4.30 M/S
PEAK PELVIC ACCELERATION	40 - 60 G	56.3 G
TIME ABOVE 20 G LEVEL	3 - 7 MS	5.9 MS
IS ACCELERATION CURVE UNIMODAL?	YES	YES

TEST MEETS SPECIFICATIONS

TECHNICIAN



RUN NUMBER: 032103.0934;1

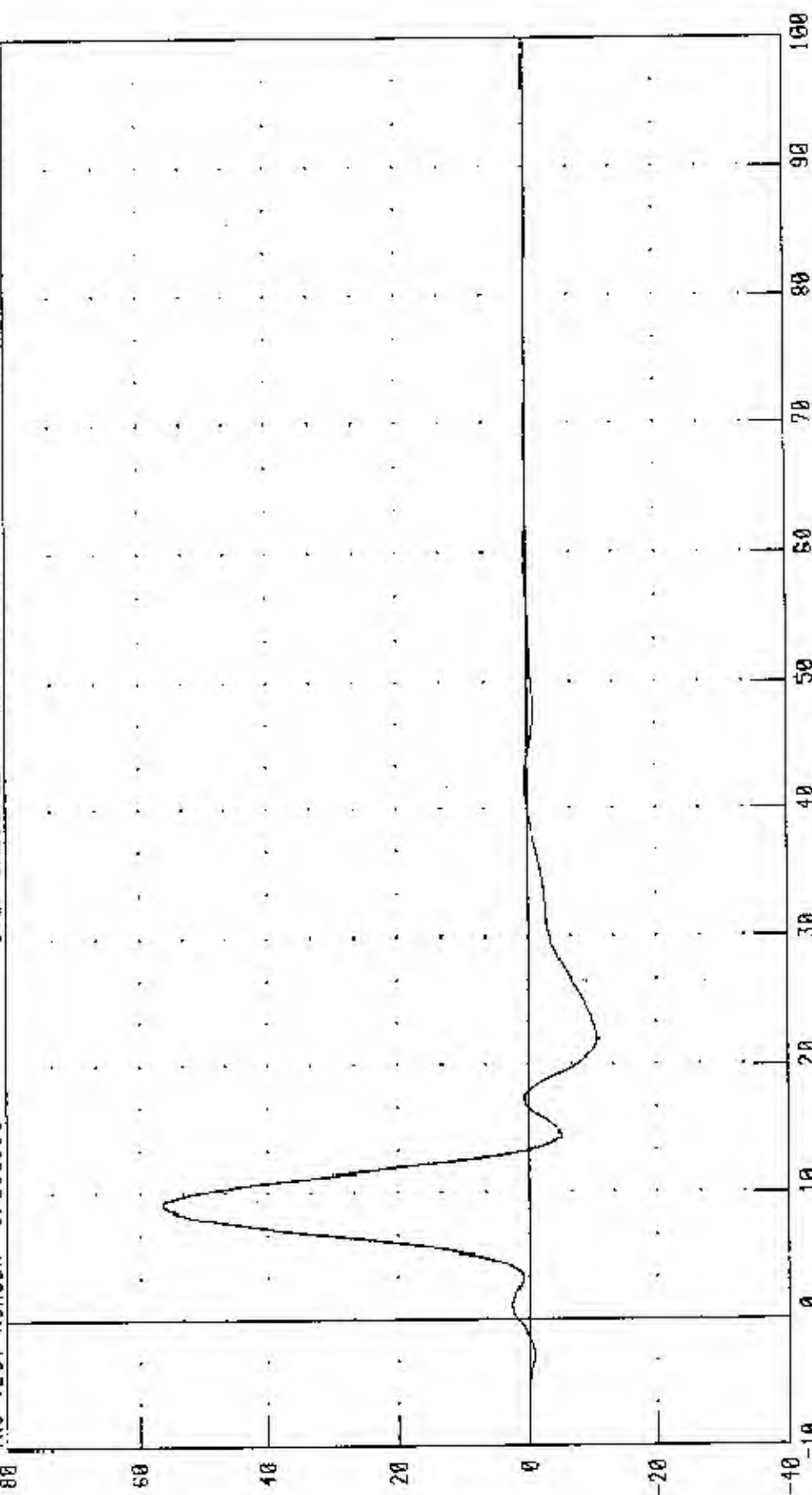
# PART 572-F S I.D. PELVIS CALIBRATION - (LEFT SIDE IMPACT)

PELVIS ACCELERATION Y AXIS

572F SN065 LEFT PELVIS CAL06

IRC TEST NUMBER: SPL06506

RUN NUMBER: 032103.093571



TIME (MS)

PEAK DATA: 56.28 G @ 9.37 MS; -10.84 G @ 21.00 MS

CHANNEL: PEVYC FILTER: FTR 100

ACCELERATION (G)

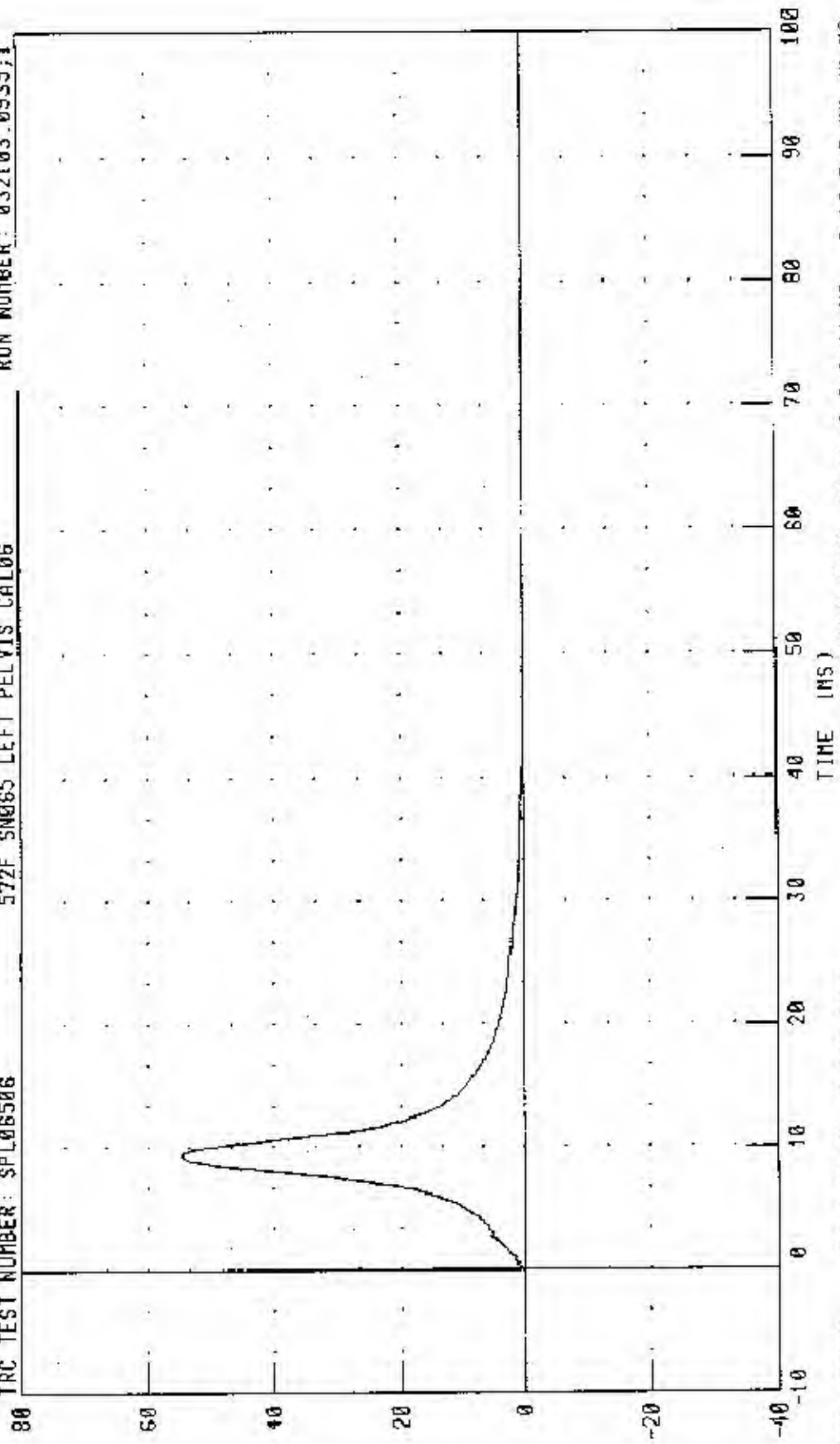
# PART 572-F S.I.D. PELVIS CALIBRATION - (LEFT SIDE IMPACT)

PENDULUM DECELERATION

TRC TEST NUMBER: SPL06506

572F SN065 LEFT PELVIS CAL06

RUN NUMBER: 032103.0935;1



CHANNEL: PENXC FILTER: CH CLASS 1000

PEAK DATA: 54.71 G 0 9 44 MS; -0 12 G 0 70 S2 MS

ACCELERATION (G)

## Transportation Research Center Inc.

## SID Pre-Use Inspection

Type: HIII SID S/N: 028Mfr: VectorTest Date: 03/17/03Proj./Seg. No.: 20020455-1100Test Eng.: Ginny Watters

ITEM	PRE-USE	
<b>HEAD:</b>		
Head Ballast Condition	X	
Accel. Mount Bolts and Cables	X	
Skull Cap Bolts	X	
Head Skin Condition	X	
Accel. Cable Exit (left or right)	(Left)	(Right) X
<b>NECK:</b>		
Rubber Condition and Separation From End Caps	X	
<b>THORAX:</b>		
Stacked Shoulder Foams and Bolts	X	
* Rib Cage Spring and Support Assembly	X	
* Rib Cage Bolts	X	
* Damper Rear Attachment Ring, Pivot Pins, and Bracket	X	
* Location and Adjustment of Chest Pot Bracket and Collars	X	
* Chest Pot Rod End Nuts and Eyebolt	X	
Arm Foam Orientation	X	
Thorax/Lumbar Spine Bolts	X	
<b>PELVIS:</b>		
Tightness and Alignment of H-Point Tool Insert	X	
* Hips Range of Motion and 1-2g Adjustment (before calibration only)	X	
Upper Femur Bolt Adjustment and Position	X	
Check Spine Kits (Yellow tape = Kits/No tape = No kits)	(With) X	(Without)
<b>LEGS AND FEET:</b>		
Femur Load Cell Bolts (40 ft/lbs)	X	
Breakaway Femur Bolts (5-6 ft/lbs)	X	
Knee Joint Function and Range of Motion	X	
Leg Skin Condition and Position	X	
Ankle Range of Motion	X	
Foot Condition	X	
<b>OTHER:</b>		
Cleanliness	X	
Target Position	X	
Clothes Pink	X	
Shoes	X	
Knee & Ankle One G Joint Adjustments	X	

Inspection Completed By: J. ClarridgeDate: 03/14/03



Transportation Research Center Inc.

SID Pre-Use Inspection

Type: HIII SID S/N: 065 Mfr: Denton Test Date: 03/17/03

Proj./Seg. No.: 20020455-1100 Test Eng.: Ginny Watters

ITEM		PRE-USE	
HEAD:			
Head Ballast Condition		X	
Accel. Mount Bolts and Cables		X	
Skull Cap Bolts		X	
Head Skin Condition		X	
Accel. Cable Exit (left or right)		(Left)	(Right) X
NECK:			
Rubber Condition and Separation From End Caps		X	
THORAX:			
Stacked Shoulder Foams and Bolts		X	
* Rib Cage Spring and Support Assembly		X	
* Rib Cage Bolts		X	
* Damper Rear Attachment Ring, Pivot Pins, and Bracket		X	
* Location and Adjustment of Chest Pot Bracket and Collars		X	
* Chest Pot Rod End Nuts and Eyebolt		X	
Arm Foam Orientation		X	
Thorax/Lumbar Spine Bolts		X	
PELVIS:			
Tightness and Alignment of H-Point Tool Insert		X	
* Hips Range of Motion and 1-2g Adjustment (before calibration only)		X	
Upper Femur Bolt Adjustment and Position		X	
Check Spine Kits (Yellow tape = Kits/No tape = No kits)		(With) X	(Without)
LEGS AND FEET:			
Femur Load Cell Bolts	(40 ft/lbs)	X	
Breakaway Femur Bolts	(5-6 ft/lbs)	X	
Knee Joint Function and Range of Motion		X	
Leg Skin Condition and Position		X	
Ankle Range of Motion		X	
Foot Condition		X	
OTHER:			
Cleanliness		X	
Target Position		X	
Clothes	Pink	X	
Shoes		X	
Knee & Ankle One G Joint Adjustments		X	

Inspection Completed By: J. Claridge Date: 03/14/03

Transportation Research Center Inc.

SID Post-Use Inspection

Type: HIII SID S/N: 0328

Mfr: Vector

Test Date: 03/17/03

Proj./Seg. No.: 20020455-1100

Test Eng.: Ginny Watters

ITEM	POST-USE
<b>HEAD:</b>	
Head Skin Condition	X
Head Ballast Condition	X
<b>NECK:</b>	
Rubber Condition and Separation From End Caps	X
<b>THORAX:</b>	
Jacket Condition	X
Arm Foam Condition	X
Damper and Chest Pot Movement and Condition	X
Rib Cage Spring and Support Assembly Condition	X
Rib Wrap Condition	X
Abdomen condition	*
Thorax/Lumbar Spine Bolts	X
Lumbar Spine Condition and Separation From End Caps	X
<b>PELVIS:</b>	
Iliac Crest bone	X
Flesh Condition	X
Hip Range of Motion	X
<b>LEGS AND FEET:</b>	
Knee Skins and Castings Condition	X
Leg Skin Condition	X
Foot Condition	X
Knee Joint Range of Motion	X
Ankle Range of Motion	X

NOTES: Put a patch on bottom abdomen seam. No other damage to report.

Inspection Completed By: J. Clarridge

Date: 03/19/03

Transportation Research Center Inc.

SID Post-Use Inspection

Type: HIII SID S/N: 065 Mfr: Denton Test Date: 03/17/03  
 Proj./Seg. No.: 20020455-1100 Test Eng.: Ginny Watters

ITEM	POST-USE
<b>HEAD:</b>	
Head Skin Condition	X
Head Ballast Condition	X
<b>NECK:</b>	
Rubber Condition and Separation From End Caps	X
<b>THORAX:</b>	
Jacket Condition	X
Arm Foam Condition	X
Damper and Chest Pot Movement and Condition	X
Rib Cage Spring and Support Assembly Condition	X
Rib Wrap Condition	X
Abdomen condition	X
Thorax/Lumbar Spine Bolts	X
Lumbar Spine Condition and Separation From End Caps	X
<b>PELVIS:</b>	
Iliac Crest bone	X
Flesh Condition	X
Hip Range of Motion	X
<b>LEGS AND FEET:</b>	
Knee Skins and Castings Condition	X
Leg Skin Condition	X
Foot Condition	X
Knee Joint Range of Motion	X
Ankle Range of Motion	X

NOTES: No damage found.

Inspection Completed By: J. Claridge

Date: 03/19/03

## Appendix D

### Test Equipment List and Calibration Information

Sign Convention  
SAE J211 MAR95

Accelerometers:

+X: Forward  
+Y: Rightward  
+Z: Downward

Potentiometers:

+Chest longitudinal deflection: Outward  
+Chest lateral deflection: Rightward  
+Seat belt displacement: Outward  
+Seat belt extension: Elongation  
+Knee slider displacement: Distance between femur and tibia  
increased (in relation to a seated  
dummy)

Rotation potentiometers:

+About the X-axis: Left foot-eversion  
Right foot-inversion  
+About the Y-axis: Left/right foot-dorsiflexion  
+About the Z-axis: Left foot-internal  
Right foot-external

Load cells:

+Femur force: Tension  
+Seat belt force: Tension  
+Barrier force: Tension

Neck load cells:

+X force: Head pushed rearward  
+Y force: Head pushed leftward  
+Z force: Head pulled upward (tension on neck)  
+X moment: Left ear rotating toward left shoulder  
+Y moment: Chin rotating toward chest  
+Z moment: Chin rotating toward left shoulder

Tibia load cells:

+X force: Ankle forward, knee rearward  
+Y force: Ankle rightward, knee leftward  
+Z force: Tension  
+X moment: Bottom of tibia moving leftward  
+Y moment: Bottom of tibia moving rearward



Sign Convention, Cont'd.  
SAE J211 MAR95

<u>Lumbar load cells:</u>	+X force:	Chest rearward, pelvis forward
	+Y force:	Chest leftward, pelvis rightward
	+Z force:	Chest upward, pelvis downward
	+X moment:	Left shoulder toward left hip
	+Y moment:	Sternum toward front of legs
	+Z moment:	Right shoulder forward, left shoulder rearward

Frequency Response Classes  
SAE J211 MAR95

<u>Typical Test Measurements</u>	<u>Channel Class</u>
Vehicle Structural Accelerations for use in:	
Total vehicle comparison	60
Collision simulation input	60
Component analysis	600
Integration for velocity or displacement	180
Barrier Face Forces	60
Belt Restraint System Loads	60
Anthropomorphic Test Device	
Head accelerations (linear and angular)	1000
Neck	
Forces	1000
Moments	600
Thorax	
Spine accelerations	180
Rib accelerations	1000
Sternum accelerations	1000
Deflections	600
Lumbar	
Forces	1000
Moments	1000
Pelvis	
Accelerations	1000
Forces	1000
Moments	1000
Femur/Knee/Tibia/Ankle	
Forces	600
Moments	600
Displacements	180
Sled Accelerations	60
Steering Column Loads	600
Head form Accelerations	1000

The direction column on the following sheets describes the transducer output as mounted and wired in the test location. The polarity column indicates whether a polarity change occurred during data acquisition to conform to J211 MAR95. See Report Sign Convention sheet for description of data output as presented in the report: occasionally channels have been adjusted in post-acquisition processing to conform to J211 MAR95.

# Channel Report

3/26/2003 9:41:38 AM

Name of Test 030317-2

Name of DAU DAU6

System MINIDAU

Chan.#	Sensor #	Mnemonic	Description	Dir.	Range	Pol.	Cal.	Group	Mfg.	Model
6001	EVENT	SYNC6	SYNC6		5.12	V	+ 10/15/2002	OK -1	TRC	Event
6002	P23186	BCGXG1	MDB CG X	FWD	595.52888	g	+ 3/3/2003	OK -1	Endevco	7264C-2K-2-180
6003	P23188	BCGYG1	MDB CG Y	RT	599.46142	g	+ 3/3/2003	OK -1	Endevco	7264C-2K-2-180
6004	P22808	BCGZG1	MDB CG Z	UP	603.20452	g	- 3/3/2003	OK -1	Endevco	7264C-2K-2-180
6005	P24561	LRRXG1	MDB LT RR X	RR	596.73659	g	- 11/22/2002	OK -1	Endevco	7264C-2K-2-180
6006	P25260	LRRYG1	MDB LT RR Y	RT	598.65536	g	+ 11/21/2002	OK -1	Endevco	7264C-2K-2-180

# Channel Report

3/26/2003 9:41:38 A\*

Name of Test 030317-2

Name of DAU DAU7

System MINIDAU

Chan.#	Sensor #	Mnemonic	Description	Dir.	Range	Pol. Cal.	Group	Mfg.	Model
7001	P25307	HEDXG1	Head Accel X	Rwd	809.10240	-	028ntr	Endevco	7264C-2K-2-18
7002	P25326	HEDYG1	Head Accel Y	Lft	808.84676	-	028ntr	Endevco	7264C-2K-2-18
7003	P25298	HEDZG1	Head Accel Z	Up	807.64741	-	028ntr	Endevco	7264C-2K-2-18
7004	P25318	HEDXR1	Head Accel X Red	Rwd	810.61397	-	028ntr	Endevco	7264C-2K-2-18
7005	P25301	HEDYR1	Head Accel Y Red	Lft	802.80983	-	028ntr	Endevco	7264C-2K-2-18
7006	P25305	HEDZR1	Head Accel Z Red	Up	807.23993	-	028ntr	Endevco	7264C-2K-2-18
7007	1716A-1532-FX	NEKXF1	Neck Force X	Hd	8897.6474	-	028ntr	Denton	1716A
7008	1716A-1532-FY	NEKYF1	Neck Force Y	Hd	8895.2129	+	028ntr	Denton	1716A
7009	1716A-1532-FZ	NEKZF1	Neck Force Z	Hd	13348.030	+	028ntr	Denton	1716A
7010	1716A-1532-MX	NEKXM1	Neck Moment X	Rt Ear	282.53421	-	028ntr	Denton	1716A
7011	1716A-1532-MY	NEKYM1	Neck Moment Y	Chn	282.61056	+	028ntr	Denton	1716A
7012	1716A-1532-MZ	NEKZM1	Neck Moment Z	Chn	281.87299	+	028ntr	Denton	1716A
7013	P25231	LURYG1	Left Upper Rib Y	Rgt	806.24842	+	028ntr	Endevco	7264C-2K-2-18
7014	P25371	LURYR1	Left Upper Rib Red Y	Rgt	791.95668	+	028ntr	Endevco	7264C-2K-2-18
7015	P25075	LURYG1	Left Lower Rib Y	Rgt	801.25195	+	028ntr	Endevco	7264C-2K-2-18
7016	P25076	LLRYR1	Left Lower Rib Red Y	Rgt	797.43326	+	028ntr	Endevco	7264C-2K-2-18
7017	P25261	T12YG1	Lower Spine Y	Lft	401.56862	-	028ntr	Endevco	7264C-2K-2-18
7018	P25374	T12YR1	Lower Spine Red Y	Lft	396.97923	-	028ntr	Endevco	7264C-2K-2-18
7019	P25063	PEVYG1	Pelvis Accel Y	Lft	400.40353	-	028ntr	Endevco	7264C-2K-2-18
7020	P25074	PEVYR1	Pelvis Accel Red Y	Lft	397.60196	-	028ntr	Endevco	7264C-2K-2-18
7021	J27271	HEDXG4	Head Accel X	Rwd	800.50031	-	065ntr	Endevco	7264-2000T2
7022	J27352	HEDYG4	Head Accel Y	Lft	793.42941	-	065ntr	Endevco	7264-2000T2
7023	J27283	HEDZG4	Head Accel Z	Up	809.34541	-	065ntr	Endevco	7264-2000T2
7024	J29134	HEDXR4	Head Accel X Red	Rwd	793.89691	-	065ntr	Endevco	7264-2000T2
7025	J29020	HEDYR4	Head Accel Y Red	Lft	802.35692	-	065ntr	Endevco	7264-2000T2
7026	J27322	HEDZR2	Head Accel Z Red	Up	814.06811	-	065ntr	Endevco	7264-2000T2
7027	1716-0627-FX	NEKXF4	Neck Force X	Hd	8900.5691	-	065ntr	Denton	1716
7028	1716-0627-FY	NEKYF4	Neck Force Y	Hd	8904.8480	+	065ntr	Denton	1716
7029	1716-0627-FZ	NEKZF4	Neck Force Z	Hd	13331.510	+	065ntr	Denton	1716
7030	1716-0627-MX	NEKXM4	Neck Moment X	Rt Ear	282.90624	-	065ntr	Denton	1716
7031	1716-0627-MY	NEKYM4	Neck Moment Y	Chn	282.62862	+	065ntr	Denton	1716
7032	1716-0627-MZ	NEKZM4	Neck Moment Z	Chn	282.46679	+	065ntr	Denton	1716



# Channel Report

3/26/2003 9:41:38 AM

Name of Test 030317-2

System MINIDAU

Name of DAU DAU8

Chan.#	Sensor #	Mnemonic	Description	Dir.	Range	Pol. Cal	Group	Mfg.	Model
8001	P25068	LURYG4	Left Upper Rib Y	Rgt	804.05798	+	065nlr	Endevco	7264C-2K-2-18
8002	P25067	LURYR4	Left Upper Rib Red Y	Rgt	808.88509	+	065nlr	Endevco	7264C-2K-2-18
8003	P25389	LLRYG4	Left Lower Rib Y	Rgt	799.52528	+	065nlr	Endevco	7264C-2K-2-18
8004	P25395	LLRYR4	Left Lower Rib Red Y	Rgt	788.95463	+	065nlr	Endevco	7264C-2K-2-18
8005	P14826	T12YG4	Lower Spine Y	Lft	401.80813	-	065nlr	Endevco	7264C-2K-2-18
8006	P25069	T12YR4	Lower Spine Red Y	Lft	398.15851	-	065nlr	Endevco	7264C-2K-2-18
8007	P25397	PEVYG4	Pelvis Accel Y	Lft	400.34404	-	065nlr	Endevco	7264C-2K-2-18
8008	P25061	PEVYR4	Pelvis Accel Red Y	Lft	401.07161	-	065nlr	Endevco	7264C-2K-2-18
8009	P23545	RFSXG1	RGT SIDE SILL FRNT ST X	FWD	398.94031	+	OK	Endevco	7264C-2K-2-18
8010	J37150	RFSYGI	RGT SIDE SILL FRNT ST Y	LT	983.21619	-	OK	Endevco	7264C-2K-2-18
8011	J34877	RFSZG1	RGT SIDE SILL FRNT ST Z	UP	399.32613	-	OK	Endevco	7264C-2K-2-18
8012	J40415	RRSXG1	RGT SIDE SILL RR ST X	FWD	395.44924	+	---	Endevco	7264C-2K-2-18
8013	P25519	RRSYGI	RGT SIDE SILL RR ST Y	LT	991.78676	-	OK	Endevco	7264C-2K-2-18
8014	J34086	RRSZG1	RGT SIDE SILL RR ST Z	UP	398.35987	-	OK	Endevco	7264C-2K-2-18
8015	J33397	RDKXG1	RR FLR PAN ABV AXLE X	FWD	978.76163	+	OK	Endevco	7264C-2K-2-18
8016	J33310	RDKYGI	RR FLR PAN ABV AXLE Y	RT	1014.6650	+	OK	Endevco	7264C-2K-2-18
8017	P24434	RDKZG1	RR FLR PAN ABV AXLE Z	UP	1015.8730	-	OK	Endevco	7264C-2K-2-18
8018	P25317	LRSYGI	LFT SIDE SILL RR ST Y	RT	1018.2165	+	OK	Endevco	7264C-2K-2-18
8019	J34118	LFSYGI	LFT SIDE SILL FRNT ST Y	RT	999.62904	+	OK	Endevco	7264C-2K-2-18
8020	P23373	LFCYGI	LFT FRNT DOOR CTRLN Y	RT	1464.3214	+	OK	Endevco	7264C-2K-2-18
8021	P25323	RRTYGI	RGT RR OCP COMP Y	RT	1463.7353	+	OK	Endevco	7264C-2K-2-18
8022	P23384	LPMYGI	LFT FRNT DOOR MIDRR Y	RT	1513.4048	+	OK	Endevco	7264C-2K-2-18
8023	P25516	LFUYGI	LFT FRNT DOOR UPPER C/L	RT	1534.7721	+	OK	Endevco	7264C-2K-2-18
8024	P24596	LRMYGI	LFT RR DOOR MIDREAR Y	RT	1481.4814	+	OK	Endevco	7264C-2K-2-18
8025	J34122	LRUYGI	LT RR DR UPPER CL Y	RT	1472.5337	+	OK	Endevco	7264C-2K-2-18
8026	J12298	LLBYGI	LFT LOWER B-POST Y	RT	1481.4814	+	OK	Endevco	7264C-2K-2-18
8027	P25329	LUBYGI	LFT MID B-POST Y	RT	1493.9309	+	OK	Endevco	7264C-2K-2-18
8028	P24580	LLAYGI	LFT LOWER A-POST Y	LT	1493.9309	-	OK	Endevco	7264C-2K-2-18
8029	P23809	LUAYGI	LFT MID A-POST Y	LT	1483.7999	-	OK	Endevco	7264C-2K-2-18
8030	J35806	LFTYGI	LFT FRNT ST TRK Y	LT	1451.8644	+	OK	Endevco	7264C-2K-2-18
8031	P23333	LFTYGI	LFT RR SE TR Y	LT	1476.1849	-	OK	Endevco	7264C-2K-2-18
8032	P21854	VCGXG1	VEH C/G X	FWD	981.55745	+	OK	Endevco	7264C-2K-2-18

# Channel Report

3/26/2003 9:41:39 AM

Name of Test 030317-2

System MINIDAU Name of DAU DAU9

Chan.#	Sensor #	Mnemonic	Description	Dir.	Range	Pol.	Cal.	Group	Mfg.	Model
9001	I35750	VCGVGI	VEH C/G Y	RT	1019.8390 g	+	3/13/2003	OK -1	Endevco	7264-2000TZ
9002	P23292	VCGZGI	VEH C/G Z	UP	1000.9775 g	-	3/25/2003	OK -1	Endevco	7264C-2K-2-15C

# Digital and System Channel Report

2003-03-26 09:47:10

Name of Test 030317-2

enable Channel

d

Yes 6501

Short Name

DIG6

System MINIDAU

Name of DAU DAU6

description

Module Type

KM3710 Controller

Data File

DAT66501

Type

dig0

description

long

short

bit

MDR RT SIDE CONTACT SWITCH  
MDB LT SIDE CONTACT SWITCH

MDRL  
MDRL1

MSB = bit 15

bit 14

bit 13

bit 12

bit 11

bit 10

bit 09

bit 08

bit 07

bit 06

bit 05

bit 04

bit 03

bit 02

bit 01

LSB = bit 00

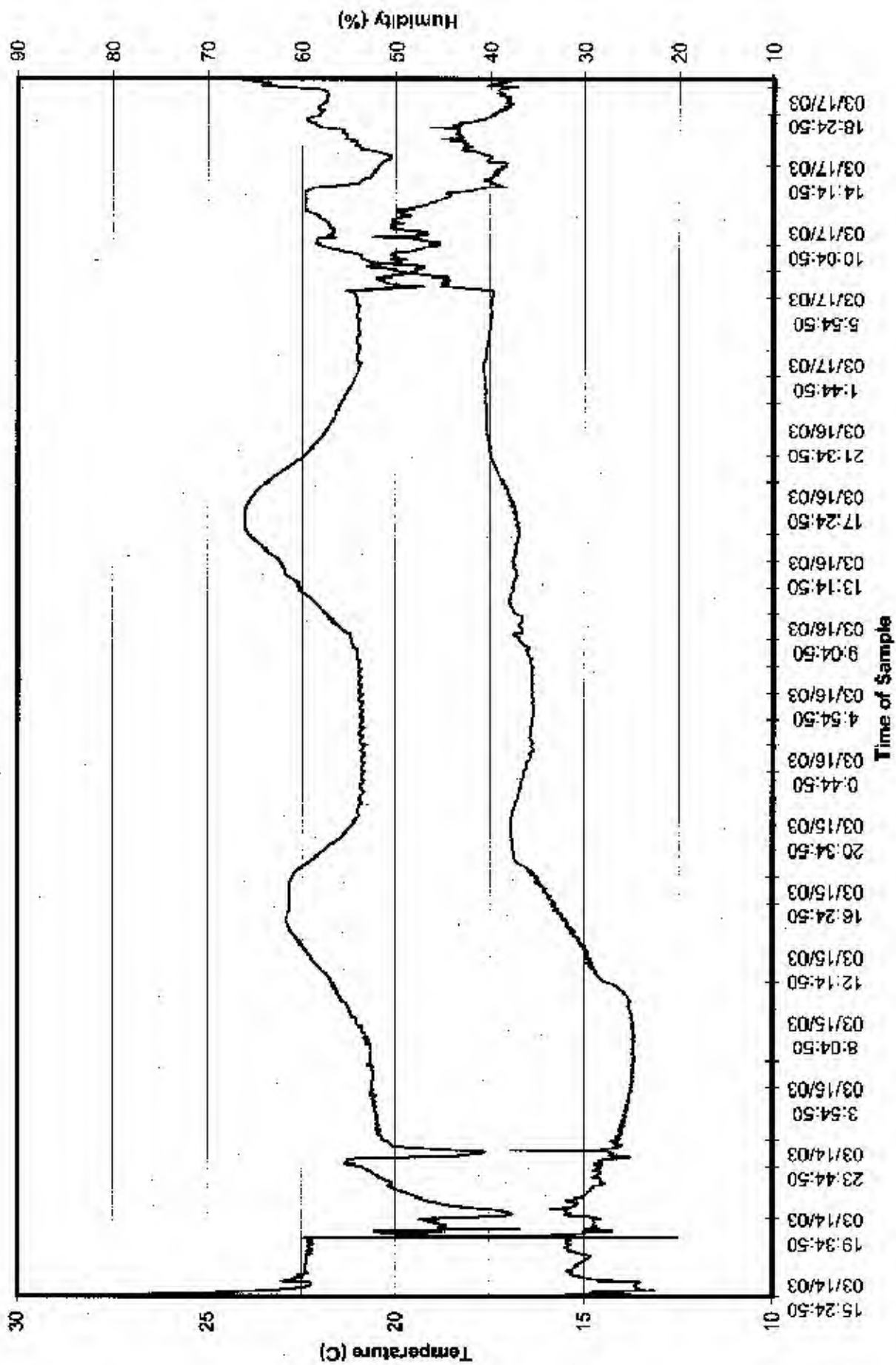


Dummy	Ref	Location	Type	STD	Description	Manufacturer	Sens./mV/V/U	Fullscale	Caldate	TRC Dir
										NHTSA - 065n SID-LEFT IMP.W/ RBD ACCELS. CAL DUE 6-19-03
HEDXG		Head Accel X			17271	Endevco	0.03198 g	2000	08/11/2003	Rwd
HEDYG		Head Accel Y			17252	Endevco	0.0239 g	2000	08/11/2003	Lft
HEDZG		Head Accel Z			17283	Endevco	0.02343 g	2000	08/11/2003	Up
HEDXR		Head Accel X Red			129134	Endevco	0.02804 g	2000	08/11/2003	Rwd
HEDYR		Head Accel Y Red			129020	Endevco	0.02279 g	2000	08/11/2003	Lt
HEDZR		Head Accel Z Red			17322	Endevco	0.02419 g	2000	08/11/2003	Up
NEKXP		Neck Force X			1716-0627-PX	Denton	0.000191111 N	8896.4	08/10/2003	Hd Rd, Cat Rr
NEKYF		Neck Force Y			1716-0627-FY	Denton	0.000188514 N	8896.4	08/10/2003	Hd Lt, Cat Rl
NEKZF		Neck Force Z			1716-0627-FZ	Denton	0.000085345 N	13344.6	08/10/2003	Hd Up, Cat Dn
NEKXM		Neck Moment X			1716-0627-MX	Denton	0.005914336 N-m	282.5	08/10/2003	Rt Ear to Rt Shld
NEKYM		Neck Moment Y			1716-0627-MY	Denton	0.005978761 N-m	282.5	08/10/2003	Chr to Strum
NEKZM		Neck Moment Z			1716-0627-MZ	Denton	0.00831469 N-m	282.5	08/10/2003	Chr to Lt Shld
LURYG		Left Upper Rib Y			7264C-2K-2-18 P25068	Endevco	0.01721 g	2000	12/19/2002	Rgt
LURYR		Left Upper Rib Red Y			7264C-2K-2-18 P25067	Endevco	0.01623 g	2000	12/19/2002	Rgt
LLRYG		Left Lower Rib Y			7264C-2K-2-18 P25389	Endevco	0.01642 g	2000	12/19/2002	Rgt
LLRYR		Left Lower Rib Red Y			7264C-2K-2-18 P25395	Endevco	0.02028 g	2000	12/19/2002	Rgt
T12YG		Lower Spine Y			7264C-2K-2-18 P14826	Endevco	0.01991 g	2000	12/19/2002	Lt
T12YR		Lower Spine Red Y			7264C-2K-2-18 P25069	Endevco	0.01692 g	2000	12/19/2002	Lt
PEVYG		Pelvis Accel Y			7264C-2K-2-18 P25397	Endevco	0.01827 g	2000	12/19/2002	Lt
PEVYR		Pelvis Accel Red Y			7264C-2K-2-18 P25061	Endevco	0.01798 g	2000	12/19/2002	Lt



# 55/28 KPH 90 DEGREE SIDE IMPACT MDB INTO LEFT SIDE OF 2003 MAZDA 6

030317-2



**SIDE IMPACTOR BARRIER CERTIFICATION**

Date: July 11, 2002

To: Transportation Research  
Ship & Rec Bldg 50  
10820 St. Route 347  
East Liberty, OH 43319-0367

**PURCHASE ORDER INFORMATION**

Customer P.O. Number: 018767  
Work Order Number: 13552  
Quantity: 05 pieces

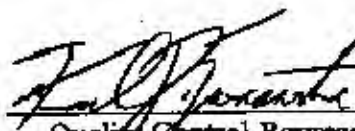
**CORE INFORMATION**


Core Type: PAMG-3/8-1.6-001-P-5052-T  
Measured Cell Size: 0.375 inches  
Measured Density: 1.6 pcf

Unit Numbers:

- 050C0602 - 01 pc.
- 050A0602 - 01 pc.
- 049A0602 - 01 pc.
- 048C0602 - 01 pc.
- 035C0602 - 01 pc.

This is to certify that the aluminum honeycomb core supplied, under the unit numbers provided, meets the crush requirements of 45 psi +/- 2.5 psi as per DWG# DSL-1285.

  
Quality Control Representative  
Karl D. Zwaanstra



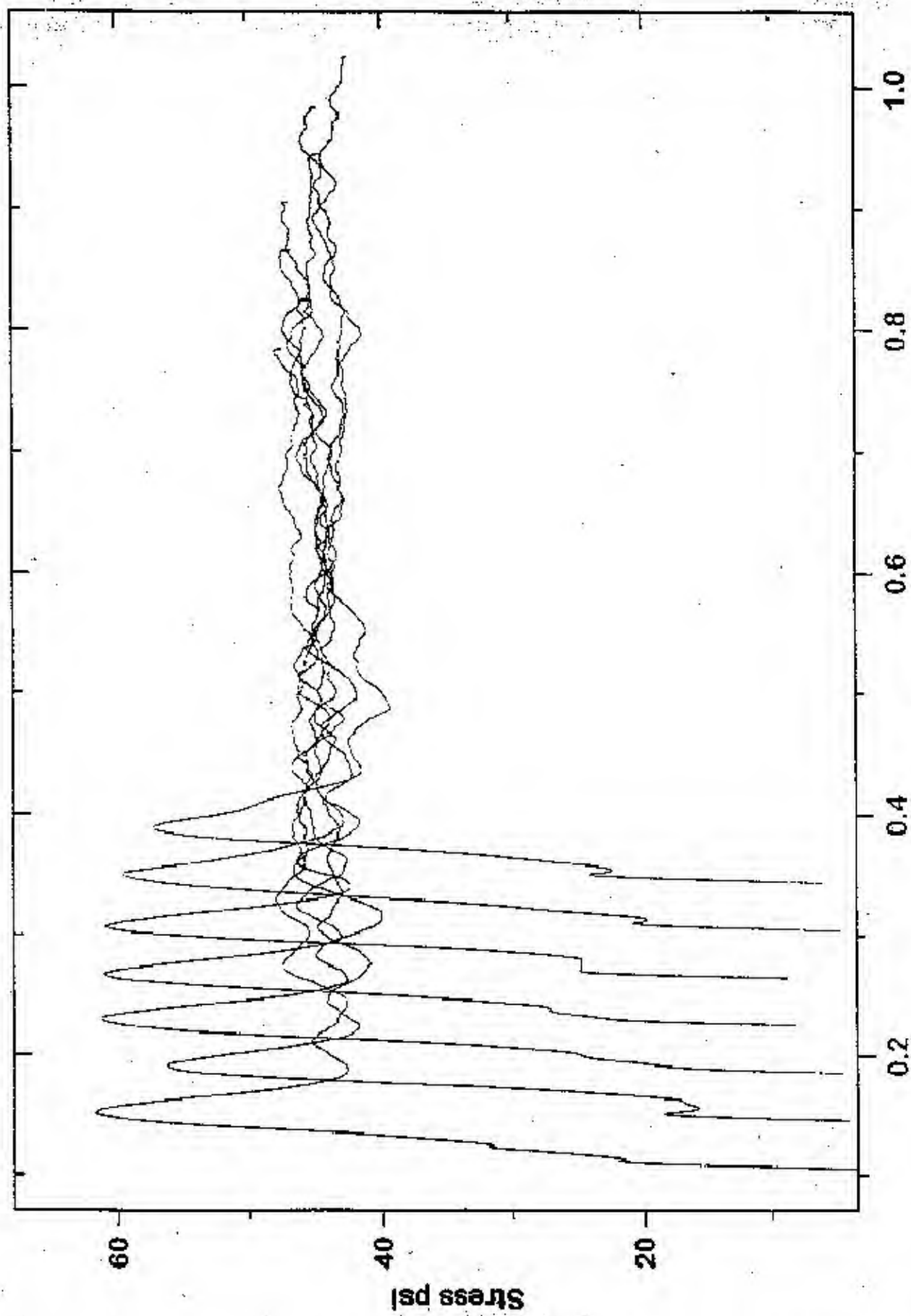


Crush Data  
45 psi +/- 2.5 psi per DWG # DSL-1285

**Block Number:** 049A0602

<u>Specimen Number</u>	<u>Zone 1</u>	<u>Zone 2</u>	<u>Zone 3</u>
1	46.16	46.20	46.90
2	45.19	44.51	45.39
3	45.18	44.59	45.82
4	44.12	45.03	46.00
5	44.61	44.57	45.10
6	43.71	42.95	43.74
7	43.36	43.10	44.13

BLOCK # 049A0602 Sample ID: IN224645





## Crush Data

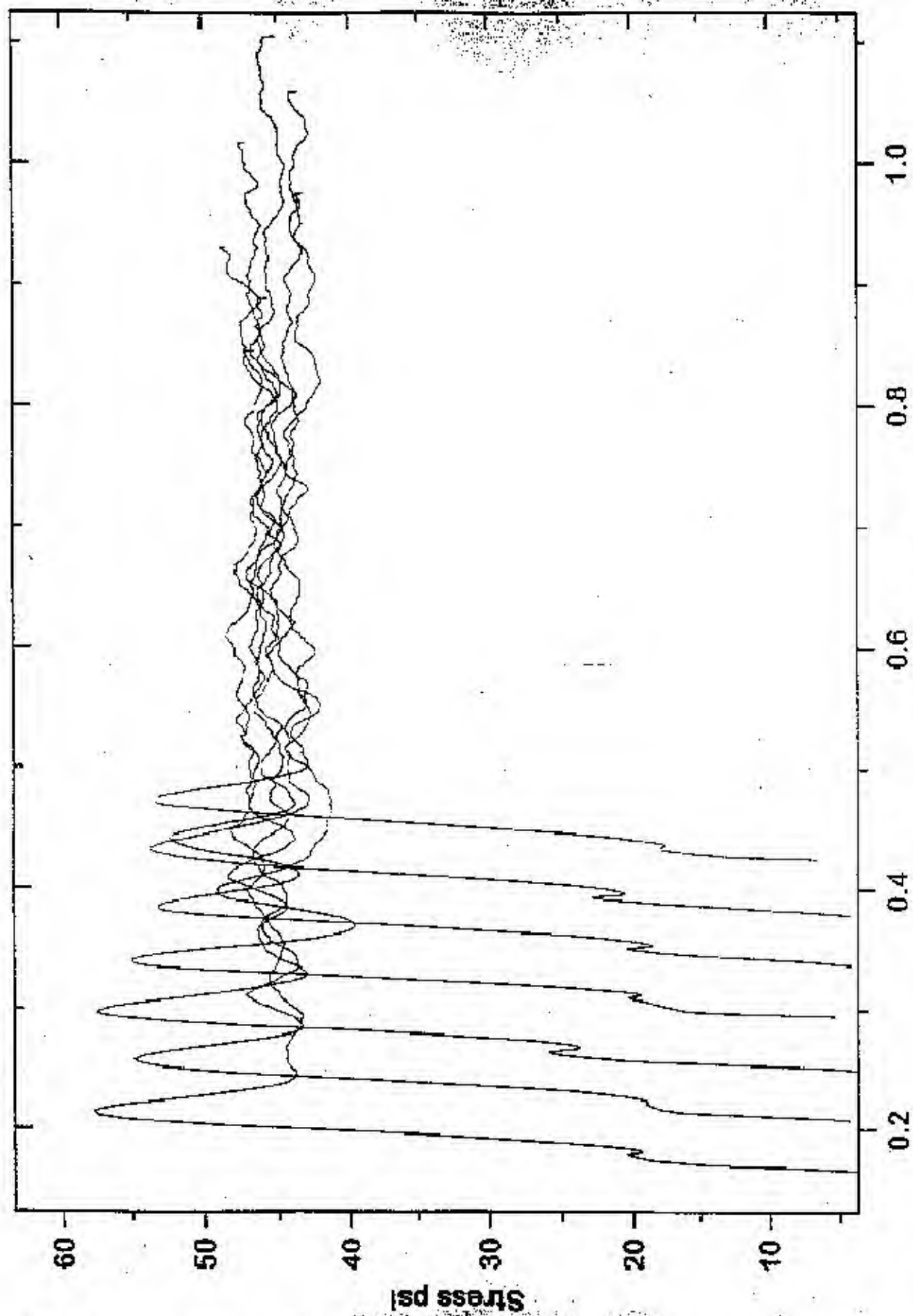
45 psi +/- 2.5 psi per DWG # DSL-1235

**Block Number:** 048C0602

<u>Specimen Number</u>	<u>Zone 1</u>	<u>Zone 2</u>	<u>Zone 3</u>
1	47.11	47.40	46.45
2	45.53	45.74	45.30
3	46.53	46.08	46.11
4	43.56	44.04	42.94
5	45.83	45.92	46.60
6	45.02	44.18	43.70
7	44.58	45.48	44.82



BLOCK # 048C0602 Sample ID: IN224702



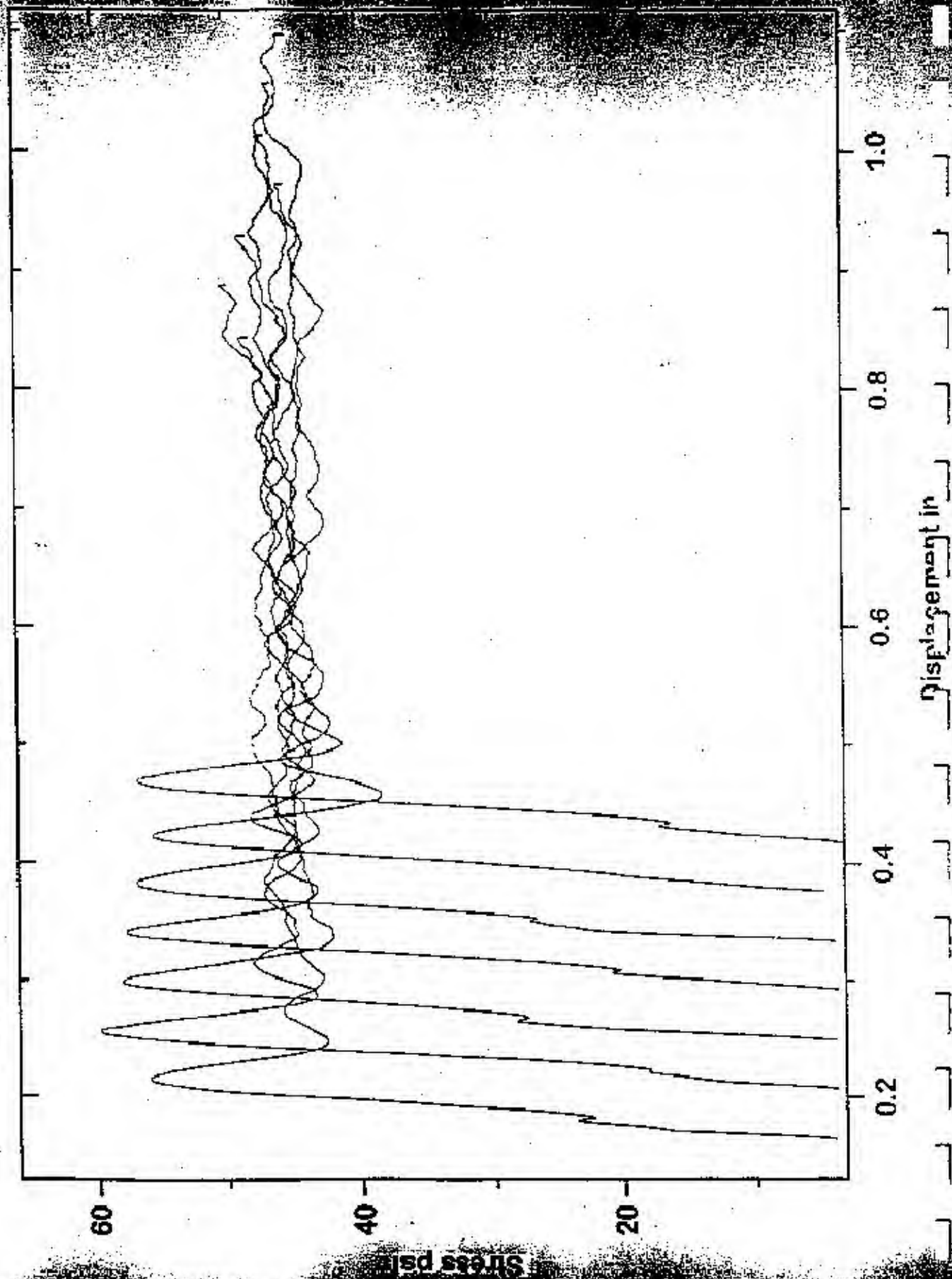
Crush Data

45 psi +/- 2.5 psi per DWG # DSL-1285

**Block Number: 050C0602**

<u>Specimen Number</u>	<u>Zone 1</u>	<u>Zone 2</u>	<u>Zone 3</u>
1	45.68	45.06	46.48
2	47.32	46.96	47.22
3	45.64	46.03	45.94
4	44.46	44.58	44.57
5	46.31	46.61	47.40
6	43.73	44.01	44.57
7	45.34	45.64	46.59

BLOCK # 050C0602 Sample ID: IN224700





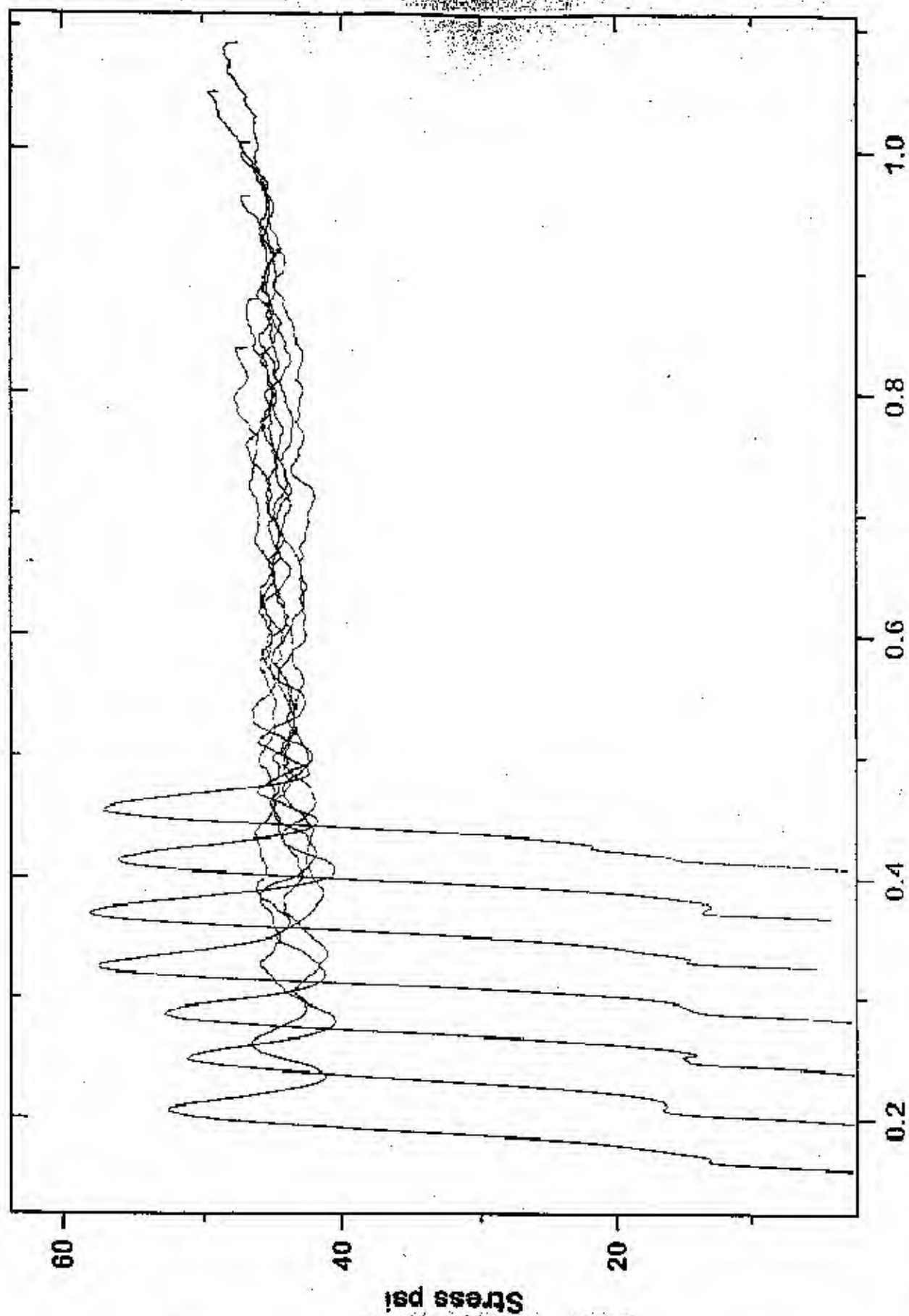
Crush Data

45 psi +/- 2.5 psi per DWG # DSL-1285

**Block Number:** 050A0602

<u>Specimen Number</u>	<u>Zone 1</u>	<u>Zone 2</u>	<u>Zone 3</u>
1	45.45	45.57	46.30
2	43.96	44.38	44.78
3	43.82	42.82	43.14
4	44.82	45.12	45.41
5	43.48	44.31	45.21
6	44.66	45.38	45.21
7	45.66	45.02	45.87

BLOCK # 050A0602 Sample ID: IN224649







PLASCORE

**SIDE IMPACTOR BARRIER CERTIFICATION**

Date: July 11, 2002

To: Transportation Research  
Ship & Rec Bldg 50  
10820 St. Route 347  
East Liberty, OH 43319-0367

**PURCHASE ORDER INFORMATION**

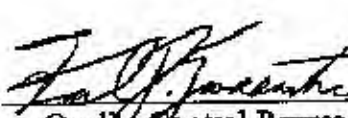
Customer P.O. Number: 018767  
Work Order Number: 13552  
Quantity: 05 pieces

**CORE INFORMATION**

Core Type: PCGA-1/4-5.2-P-3003-T  
Measured Cell Size: 0.250 inches  
Measured Density: 5.2 pcf

Unit Numbers: 035A0602 - 03 pcs.  
058B0502 - 02 pcs.

This is to certify that the aluminum honeycomb core supplied, under the unit numbers provided, meets the crush requirements of 232 - 250 psi as per DWG# DSL-1285.

  
Quality Control Representative  
Karl D. Zwaanstra





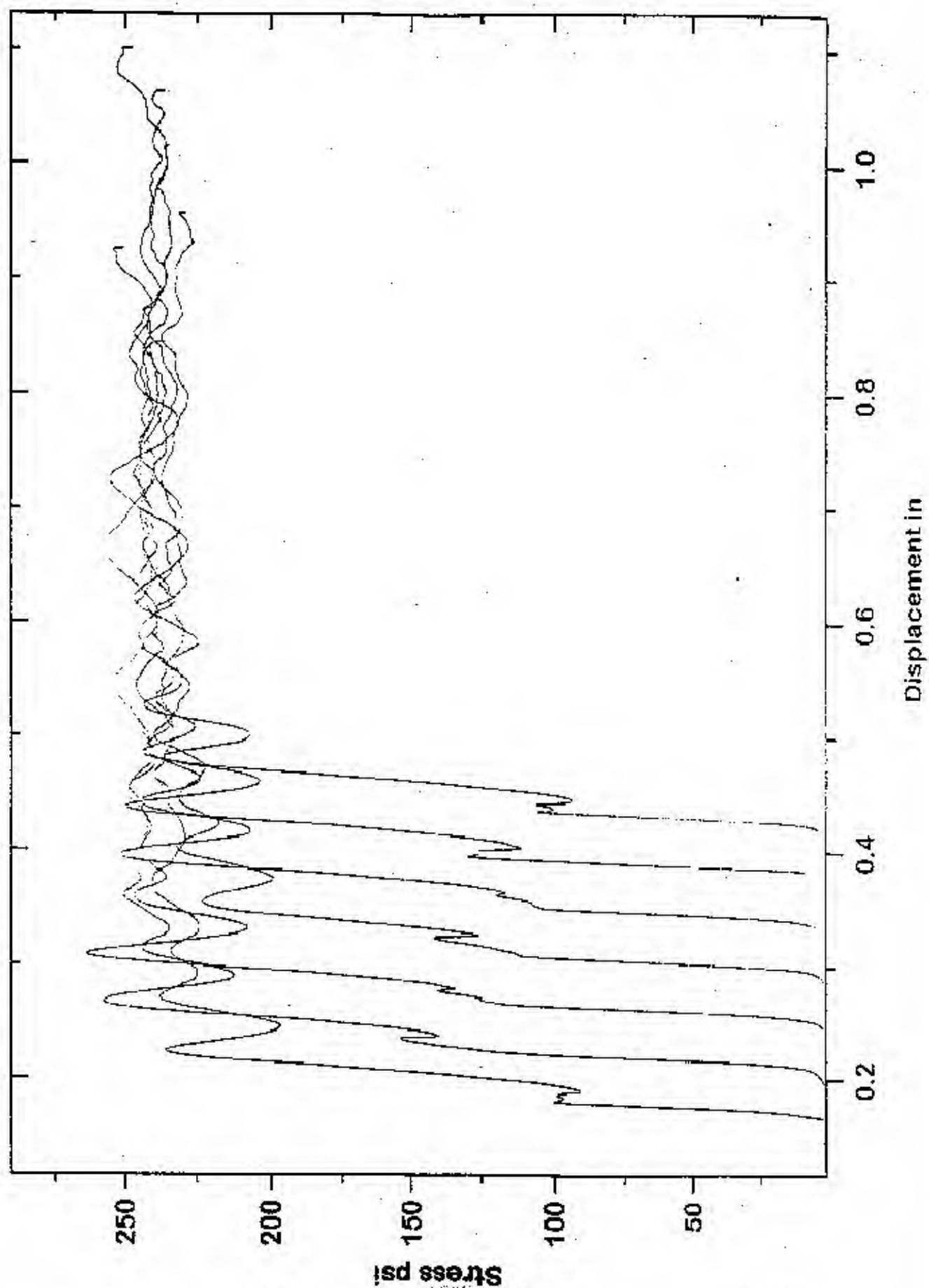
Crush Data

232 - 250 psi per DWG # DSL-1285

**Block Number: 058B0502**

<u>Specimen Number</u>	<u>Zone 1</u>	<u>Zone 2</u>	<u>Zone 3</u>
1	234.88	233.03	238.26
2	245.89	246.74	234.83
3	244.45	242.80	244.84
4	233.66	232.58	232.66
5	241.14	241.30	238.97
6	241.47	241.27	241.95
7	241.53	238.17	235.74

BLOCK # 058B0502 Sample ID: IN224430

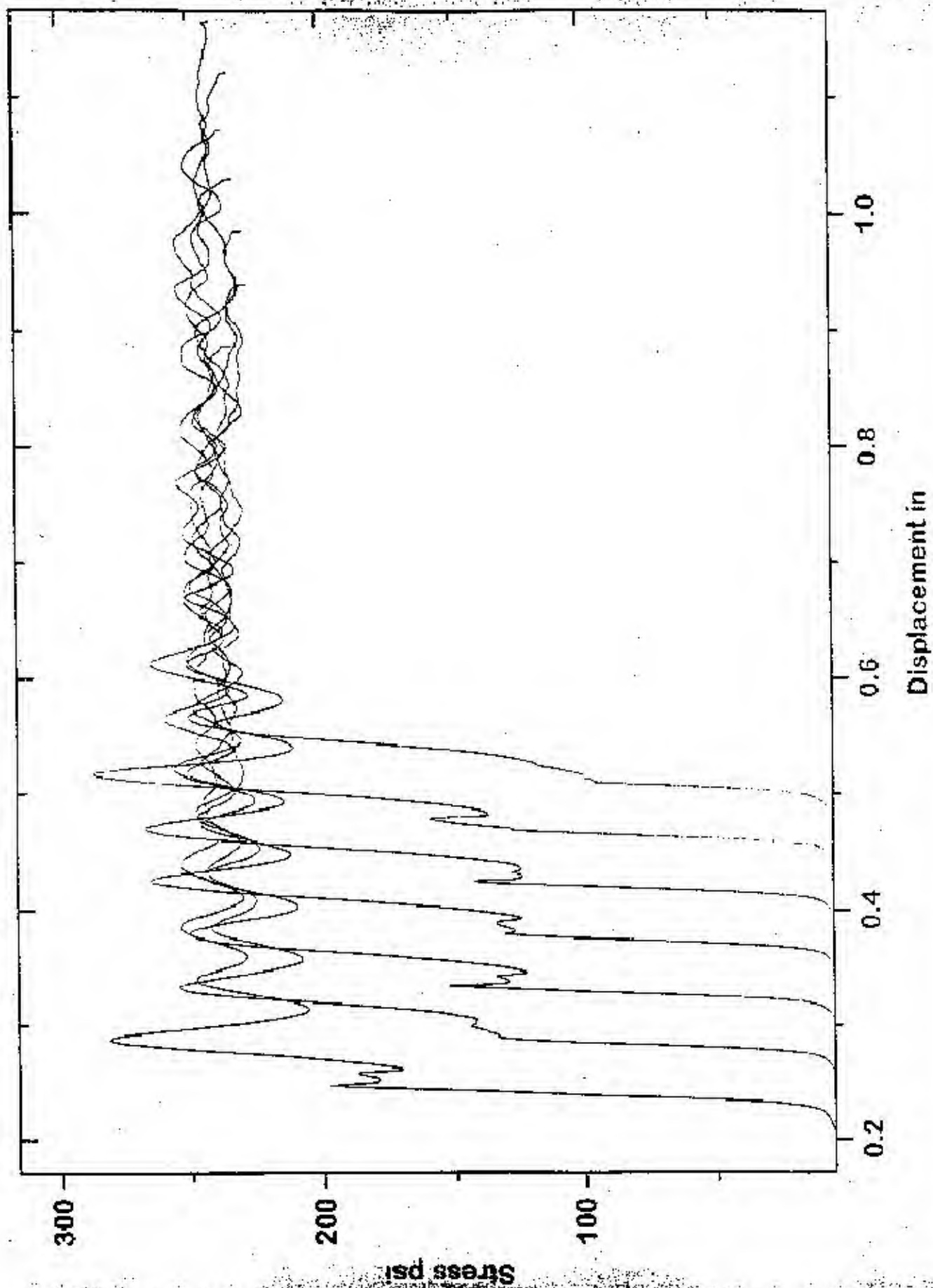


Crush Data  
232 - 250 psi per DWG # DSL-1285

**Block Number:** 035A0602

<u>Specimen Number</u>	<u>Zone 1</u>	<u>Zone 2</u>	<u>Zone 3</u>
1	244.40	243.67	243.31
2	233.87	235.01	232.86
3	236.81	234.93	233.33
4	239.66	238.82	236.92
5	244.52	242.91	243.54
6	246.13	246.27	243.76
7	244.63	245.45	243.59

BLOCK # 035A0602 Samples: IN224610



Stress psi

Displacement in





**Crush Data**  
**45 psi +/- 2.5 psi per DWG # DSL-1285**

**Block Number: 035C0602**

<u>Specimen Number</u>	<u>Zone 1</u>	<u>Zone 2</u>	<u>Zone 3</u>
1	46.57	46.17	46.74
2	45.67	45.64	47.19
3	45.73	45.27	45.40
4	44.47	44.96	45.89
5	46.95	47.06	46.69
6	45.56	47.05	47.20
7	45.38	45.66	45.78

BLOCK # 035C0602 Sample ID: IN224647

